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February 15th, 1945
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Carrington Kemp

Years of waiting for the blow-off on the issue of tidelands ownership will be ended shortly, when Secretary of Interior Ickes accepts a California filing for drilling privileges in the oil-rich strip of land extending from the line of mean high tide into the Pacific Ocean.

This precedent-breaking action—which responsible authorities agree is "imminent"—will raise the curtain on a show which will make the Senate hearings on the Nye bill (1939-1940) look like tank-town circuit.

The State of California is poised for an aggressive battle in the courts—providing Congress does not take things into its own hands by rushing legislation to declare ownership of the disputed tidelands is vested solely in the several States. High State officials express "supreme confidence" in the outcome, whether the issue has to grind its way up to the United States Supreme Court, or whether the House and Senate pitch in to decide, once and for all, the right of the States to the coveted strip of half-submerged land that virtually encircles the United States.

While the second Nye bill—seeking to hand over to the U. S. the billion-dollar-plus oil deposits off the shore of Southern California—affected only one State, granting by the Interior Department of an application to drill on property whose title has remained clouded for generations will open to question the ownership of docks, harbor improvements and shore installations of every variety, up and down the Pacific and Atlantic coasts and along the Gulf coast. Vast and costly port installations in states far-removed from oil-producing areas will be threatened by such Federal action and port authorities, and municipal and State officials from every state bounded by salt water can be counted on to jump into the State vs. Federal ownership battle.

Secretary Ickes, for a long time, has been hankering to put the tidelands matter to issue, and—unless publicity scares him off—this appears to be the golden opportunity for a test of strength.

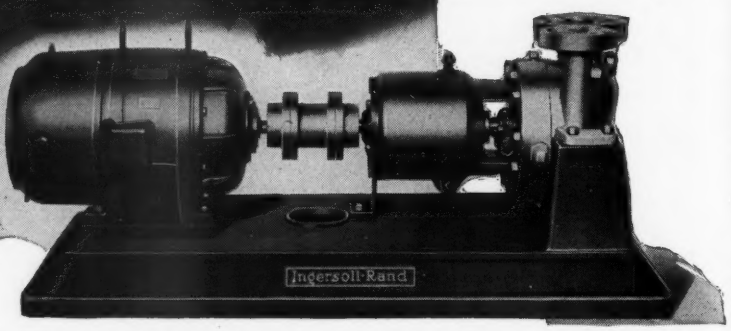
Already reposing in the pigeonholes of the House Judiciary Committee is a resolution, sponsored by Rep. Homer D. Angell (R., Ore.), calling upon Congress to reaffirm the doctrine that title to the tidelands is vested in the states and not in the Federal Government. There is a good likelihood that this legislation will be trotted out as the opening gun in a Congressional drive to block the Interior Department in its designs upon the richly-productive oil deposits underlying the shores of California and Texas (and to a lesser degree Louisiana and other states which have not yet found the means nor the incentive for intensive exploratory activities on offshore properties).

The Angell resolution (introduced last year, without any fanfare, but dropped in the hopper for a second time by Angell, who is concerned over Federal threats against Oregon harbor developments, rather than oil) states that the "accepted" policy of the United States has been, for over a century, that the states had title to the lands within their boundary "as an incident of sovereignty". This rule was "first disturbed" by the introduction of the Nye bill, the measure points out, and—more recently—by the Justice Department's condemnation action against the 330-acre Terminal Island tract in Los Angeles and Long Beach harbors.

Proponents of Federal ownership of the tidelands lost two effective crusaders when former Sen. Gerald P. Nye—instigator of the attack upon California's title to her offshore oil deposits—was retired by the voters of North Dakota and when Assistant U. S. Attorney General Norman M. Littell was peremptorily fired from the Justice Department by President Roosevelt. According to Washington gossip, Littell was the only Justice Department official with a fanatical determination to wrest title to the tidelands from the states. Attorney General Francis Biddle is said to have had little real enthusiasm for the viewpoint taken by his assistant.

Before the intent of Ickes to bust open the tidelands issue on a national scale became known, the boldest move for a showdown on

for PUMPING.....



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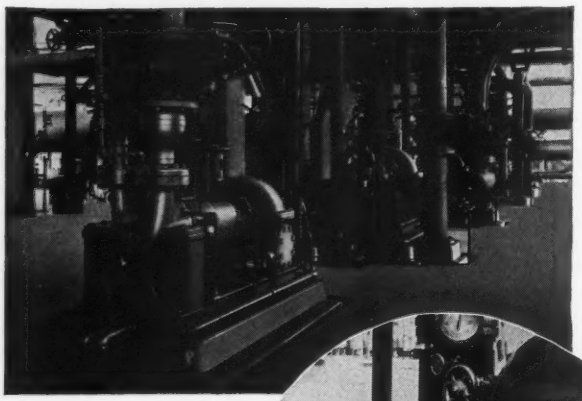
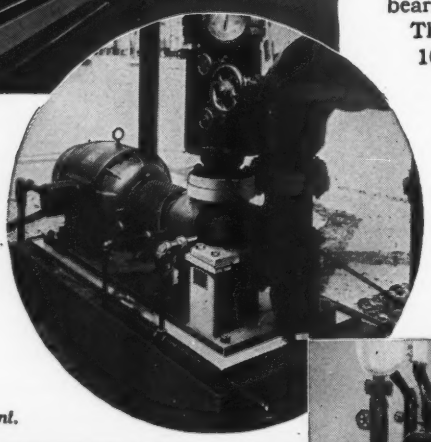


In a refinery.



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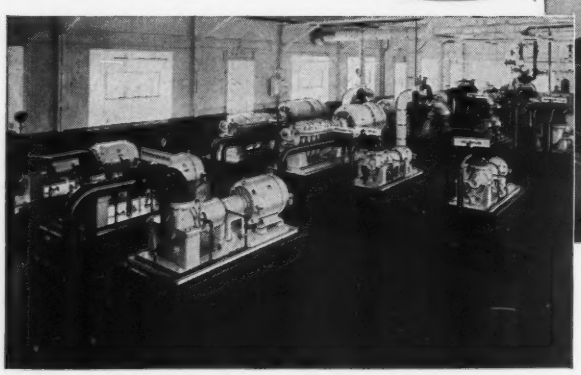
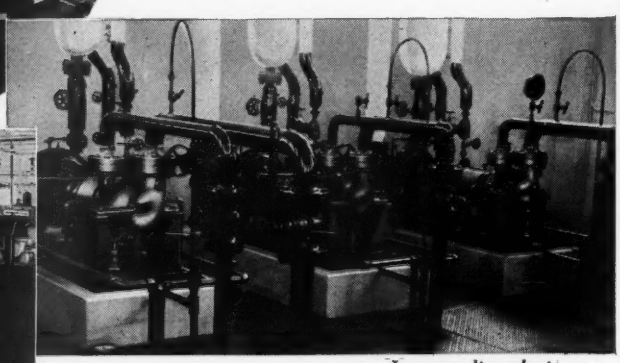
In a natural gasoline plant.





In a recycling plant.

Ingersoll-Rand

10-510

the controversial matter was a brief, filed Jan. 15, by California's Attorney General Robert W. Kenny with Ickes.

While this brief dealt with Mexican land grants in California, lying between the line of mean high tide and the line of extreme high tide, it was considered an opening wedge to the entire question of "who owns the tidelands?"

Kenny bluntly requested a "vigorous decision" by Ickes to put an end to the practice of filing applications on the strip of shore involved. Terming applications of this nature a "public nuisance," the State official declared "the State of California believes the time has come" when Ickes should outlaw the filing of such claims. . . . The Interior Department did not rule on ownership of the land in the recent Aldrich decisions, Kenny pointed out.

"The fundamental error underlying the application of Aldrich and all other similar applications, is that they are in reality predicated on the grant of the Mexican Government as construed under Mexican law," the brief stated. "In attempting to base their claims on Spanish or Mexican grants, applications are some 90 years too late."

Pointing out that the manner of procedure under which the stipulations of the Treaty of Guadalupe Hidalgo should be carried out was a matter for Congress to decide, Kenny said the question was determined in 1851 by an Act of Congress, creating the Board of Land Commissioners and setting up the procedure under which all valid grants of the Mexican and Spanish governments were to be confirmed and settled. Since questions such as those posed by the Aldrich application have been acted upon by the Lands Board, and the Board's decision has become final, "no other court or department of the Government now has or ever has had jurisdiction or authority to re-examine or re-adjudicate" the boundaries, the Attorney General claimed.

Ickes' attitude on the Mexican lands grant brief is expected within 30 days, Kenny says. What attitude Ickes will take on the Californian's interpretation of the laws governing the strip of land between the high-tide mark and the extreme high-tide mark (which Kenny refers to, in non-legal moments, as the "splash-line") will not be known until the Secretary has had an opportunity to study the points raised by the State officials. . . .

"My brief," Kenny told CALIFORNIA OIL WORLD, "is filed in the hope that the Secretary will boldly and finally, dispose of the issue (of Mexican grants) by holding that these are in no wise public lands and that the Federal Government has no interest in them." This statement was made, however, before the news broke that Ickes was ready to toss in the gauntlet on the overall issue of tidelands.

Kenny—here in Washington to testify before a Senate oommittee—expressed satisfaction over the report the Interior Secretary was ready to make a test case of the tidelands matter.

"I have heard stories that California's title to the lands may be challenged," he told this writer, "and when that time comes we will face the issue with sublime confidence."

* * *

Another spanking for California operators flaunting production restrictions appears due. The Petroleum Administration for War—which already has cracked down in a couple of instances on operators who carelessly exceeded production limits established by PAW—is reported to be eyeing the Universal Consolidated Oil Co. for an alleged violation of production orders. Overproduction, in this instance, is said to have occurred in the Coalinga Nose and Raisin City properties of the company.

Relieving the minds of California oil men who feared a shortage of steel and materials for the all-important 27,000-well program set up as the 1945 goal, the situation seemingly has eased in the last few weeks.

Steel allocations, according to PAW calculations, now appear to be adequate for the drilling program, —with indications that allocations for the 2nd quarter of 1945 will be larger than was feared a few weeks ago. The PAW "won't be sure" for a couple of weeks, but feels fairly confident the present situation is sufficiently bright to relieve the feeling of apprehension that had begun to spread through the industry.

* * *

Nothing really new on the Anglo-American oil treaty,—so rudely treated in the early winter by Chairman Tom Connally (D., Tex.) of the Senate Foreign Relations Committee that it was withdrawn by the President and the State Department for further study.

The document now is undergoing close scrutiny by the various interested Government departments, with particular attention being paid to points involving its anti-trust position.

Two members of the President's Committee—Deputy Petroleum Administrator Ralph K. Davies, and Petroleum Advisor Charles B. Rayner, of the State Department—are getting ready to submit to the President the revised version of the oil pact, which is receiving the finishing touches after being threshed out between the Government representatives and members of the National Oil Policy Committee of the Petroleum Industry War Council.

* * *

Developing demands for more West Texas crude, for use in Southern California refineries, are expected to increase rail shipments from approximately 20,000 barrels a day to from 40,000 to 50,000 B/D.

Despite complaints of West Coast refiners that the Texas Sour crude is not as adaptable to use as it should be, the growing military demand makes necessary additional importations of the product. The crude can be mixed with sweeter crude to comply with refinery requirements, it is explained.

* * *

Continued bad weather is responsible for an extremely tenuous petroleum supply condition in the East.

According to Deputy Petroleum Administrator Ralph Davies, a "very delicate, day-to-day, position" has arisen which may bring further hardship to Eastern motorists and users of heating oils.

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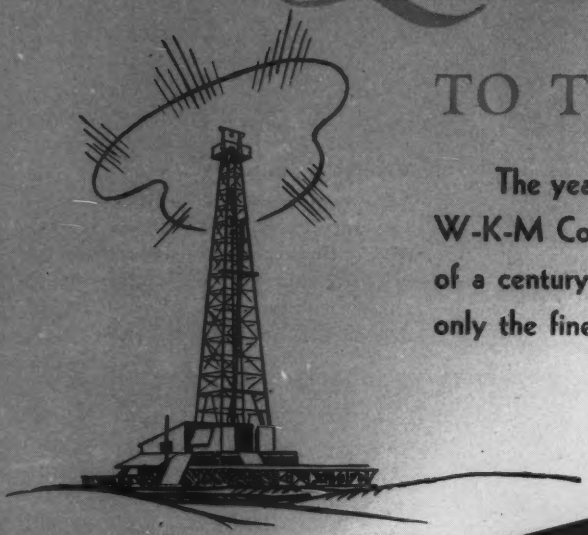

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Current and Postwar Problems of the Independent Oil Producer

By
Ralph T. Zook, President
Independent Petroleum Association
of America and
The Sloan and Zook Company
Oil Producers
Bradford, Pennsylvania

An Address Before the California Members of the I.P.A.A. and Their Guests, Held at the Biltmore Hotel, Los Angeles on February 6th.

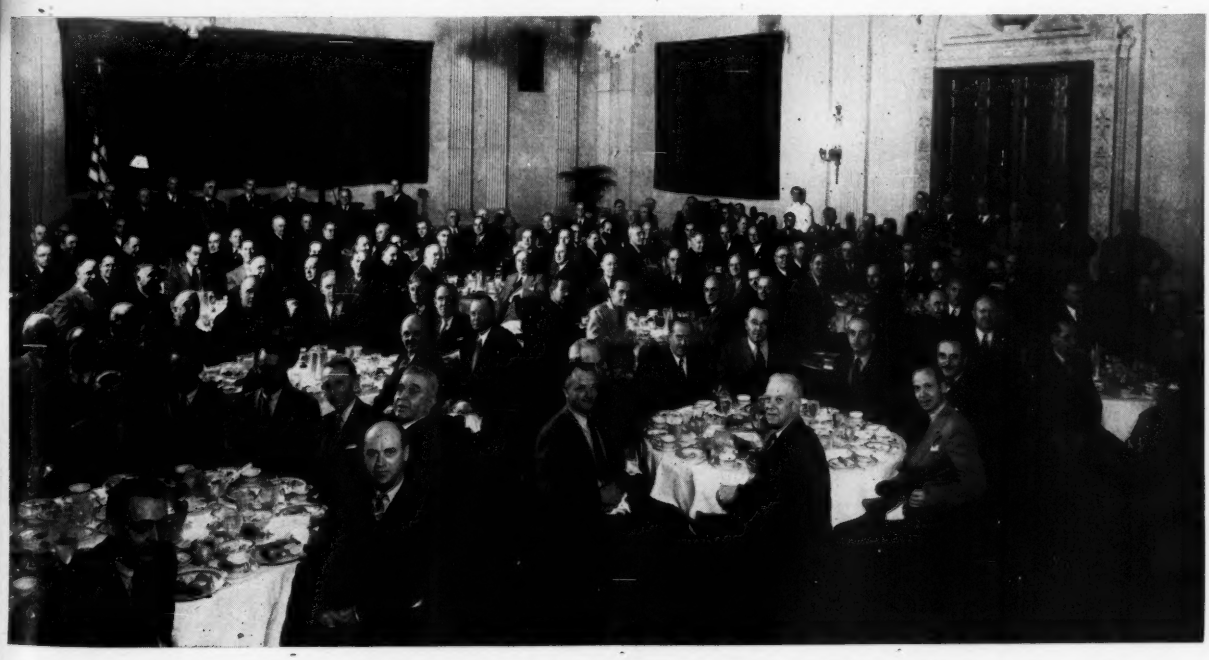
The number one job of the oil industry is to furnish the oil to win the war, a war that a few months ago seemed to be nearing its end in Europe and was ahead of "schedule" in the Pacific. Since then we have been faced with the realization that we may be far from the end and there is likely to be a long, hard road ahead, a road that will be filled with sorrow and heartaches and require all our courage, faith, and reserve strength to travel. But travel it we must, and it must be traveled successfully.

Postwar Problems

I must talk to you today about what may happen to our petroleum industry postwar, unless we are on guard and exert our strength and influence to prevent it from coming about. Material things are of small consequence when weighed against the loss of loved ones. Yet someone must protect our country against those who would undermine it by acts against which our armies cannot defend. Acts which may seriously affect the future of those who fight for us. These bureaucrats, theorists, and self-appointed planners would supply the postwar oil requirements of this country from Venezuela, Iran, Iraq, Bahrein, Kuwait, and Saudi Arabia regardless of the effect upon our future. In my opinion, independent oil producers constitute the group that must carry the fight to prevent this and other acts, which may cause permanent injury to our country.

I would be derelict in my duty as President of the Independent Petroleum Association of America if I did not as forcefully, as is within my power, to bring to your attention the problems that are likely to confront us at the end of the war, if not before. Two are outstanding: the price of oil and imports. They go hand in hand. An inadequate price for oil brought about by uncontrolled domestic production or from a flood of cheap foreign oil can reduce our domestic oil industry to one of impotence. If that comes about, the very safety of our Nation would be jeopardized.

Oil producers explore for and produce oil because there is either currently a market at a price that will return their capital investment and show a profit, or their inherent optimism leads them to believe them if those conditions do not then prevail, there will soon come a day when they will. Remove that incentive and they will no longer search for oil. The industry will become stagnant; thousands directly engaged in the industry and a still larger number in the allied industries such as the manufacturers of tubing, rods, valves, pumps, pump-



A part of the capacity audience which turned out to welcome Ralph T. Zook and to hear his discussion on the Current and Post War Problems of the Independent Oil Producers.

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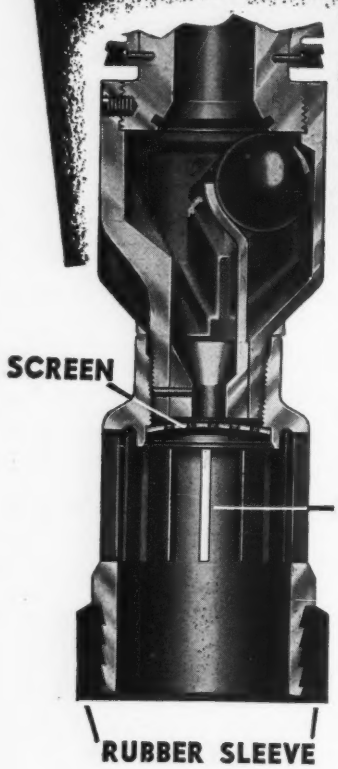
and can save a lot of time and trouble for you!



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ing units, turbines, motors, engines, and compressors, will be thrown out of employment. Entire communities that depend on the revenue from oil production and the taxes from it to maintain their existence will cease to be thriving, successful areas.

Safety of the Nation

That in itself might eventually be overcome, but more serious is the safety of our nation in the event of another war. We all pray that this will not come about, but those of us who lived through World War I, hoped that the present one would not take place. Instead, we are now involved in a war more horrible and devastating than most of us thought could take place even in our wildest imaginations.

The potential oil producing capacity at the beginning of this war has been, to a large extent, the source of supply for the ever-increasing demand of the Allied Nations. The Allied cause was saved by the oil reserves and producing capacity of this Nation. When enemy submarines cut off the oil from the Caribbean area and oil from the Middle East was forced to take the long route around the southern end of Africa because of the almost complete control of the Mediterranean area by the enemy, it was the United States that supplied the oil which enabled the Allies first to check the Axis gains and then begin moving to victory. **This is a lesson that must never be forgotten.** It, however, has been either forgotten or not realized by those who would ruin our domestic oil industry through inadequate prices and unrestrained imports.

Price of Oil

The oil industry cannot function properly with the price index for crude oil so far out of line with other commodities as it is at present. Producers, who have struggled through this war era under frozen price while costs have risen 30 per cent and more and discovery costs have gone up 300 per cent over the 1940 figure, cannot adequately perform the task that lies ahead, either during the war or postwar. The industry has been liquidating reserves acquired at costs far below present replacement costs. If it were not for this, it could not have continued to function with wages at an index of 188, all commodities at 105, and crude oil at only 65.

The present cost survey on crude oil and refined products now being conducted by the Office of Price Administration should lead to a correction of the present inadequate ceilings on crude oil prices. The Office of Price, although long delayed, has now appointed one of the most constructive and capable industry advisory committees in my experience. The form for obtaining cost figures will be sent to a list of producers carefully selected to give a cross section of the industry, in this manner making the figures available at an early date without undue hardship on industry or government. The limited scope of the list places a responsibility on those who receive the questionnaire to furnish the information requested promptly and fully so that a true cost picture on production will be obtained. My information is that a similar committee is being planned for refining and marketing.

Higher crude prices will go far towards assuring a greater supply of oil for the war and a healthy dynamic postwar industry. A strong oil industry (1) guarantees the security of this nation in time of war; (2) assures the public of a continuous and adequate supply of oil and products at fair prices; (3) allows the States' natural resources to be released in an orderly manner, and (4) furnishes the production branch of the oil industry with necessary funds to accomplish these results.

Policy on Imports

There are some who are ready to write off the United States as a strong producing nation and depend on the importation of foreign oil. Others are planning to use the greatest oil market of the world, the United States, to cure the ills of other countries at the expense of our country. The independent producer sees in such thinking a definite threat to his existence. When I was speaking to the Members of the Independent Petroleum Association of America at the Mid-Year Meeting at Bradford, Pennsylvania, on April 28, 1944, I said:

"If you have access to the right sources in Washington you will be told 'off the record' that the postwar plan for oil provides for the importation of 600,000 barrels daily from South America."

A few more illustrations will be sufficient to show what progress has been made in that kind of thinking.

Henry E. Rose, writing in the January, 1945, issue of the **Ethyl News** under the title of "Oil for Europe," states in part:

"When the war ends, it is expected that domestic crude oil production will be cut back substantially as a conservation measure. Domestic oil demand, on the other hand, is expected to exceed the amount of crude being produced. In consequence, the United States will have to rely on imported oil to meet its total demand, as time goes on. According to industry economists, these imports will range from 150,000 barrels a day upward; their calculations, moreover, make no provisions for any exports in the postwar period . . .

"At best, the United States will supply only such products as aviation gasoline, of which it is the largest producer in the world, and possible special lubricants . . ."

The Tulsa Tribune under date of January 12, 1945, carries the headline: "Huge Imports of Oil Looms as Possibility." It is a report of a news conference with Secretary of Navy Forrestal and Rear Admiral A. F. Carter, the Navy's petroleum authority. Admiral Carter is quoted as saying:

"We likely will emerge from the war with tanker capacity to deliver at least 500,000 barrels a day to our coasts from foreign fields."

The January, 1945, issue of **Fortune** magazine carries a story on the Big and Little Big Inch Pipe Lines under the title "Two Pipe Lines for Sale." In discussing the use of these lines after they have served the purpose of war transportation, one of the possibilities is:

" . . . As carriers of imported crudes from Eastern to Mid-Western refineries . . . "

The article goes on to quote T. E. Swigart, President of Shell Pipe Line Company, who has made a

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comprehensive study of the cost of operation of these lines and their future use, as expressing the following thoughts:

". . . After the war, . . . foreign crude may displace increasing amounts of the District 3 supply. During the war, Caribbean producers, for instance, have more than doubled their output, and since prewar European markets for their crude may be invaded by oil from Saudi Arabia, we may want to give Caribbean crude a break for political reasons. Economically it will not be to our advantage."

Mr. Swigart did not say it should be imported from South America. In fact, he said it "will not be to our advantage." He puts his finger on the danger spot, when he says "It will not be to our advantage."

All plans for the importation of crude oil fade into insignificance when compared with those of the National Planning Association which, in its booklet, "America's New Opportunities in World Trade," issued during November, 1944, recommended the importation of a billion barrels of oil annually by 1950. This at a rate of 2,740,000 barrels daily. The estimated price is 75 cents per barrel.

One would not regard this proposal seriously were it not for the fact that the National Planning Association has among its officers and trustees a number of men who now occupy official positions in the United States Government. The chairman, William L. Batt, is a vice chairman of the War Production Board as is Clinton S. Golden, vice president of the United Steelworkers of America. Other members include Stacy May who, until recently, was the leading statistician for W.P.B., and Charles E. Wilson of General Electric Company until recently executive vice president of W.P.B., Beardsley Ruml, treasurer, of Macey's, New York, the proponent of the Ruml plan for applying income taxes to the year in which they are paid, and the author of the book "Tomorrow's Business," is a vice chairman of the Association.

The recommendations of this board concerning petroleum are based on the conservation of our natural resources "by importing a greater part of the nation's requirements for industrial raw materials." The report goes on to say:

"Prior to the war, domestic resources furnished approximately 80 per cent of our industrial raw materials. We had already . . . mined an appreciable proportion of our minerals. In some quarters grave concern, even then, was expressed over the accelerating use of petroleum, a vital and irreplaceable resource.

" . . . Among major factors considered were: . . . the rapid wartime depletion of certain natural resources (petroleum, for example)."

Estimated demand for 1950 is in the neighborhood of the present production rate of about 5,000,000 barrels of petroleum and products daily. The proposed billion barrels yearly of imports would reduce domestic production by approximately 50 per cent. On the basis of today's producing rate this would give Oklahoma an outlet for 175,000 barrels daily, Texas slightly over 1,000,000 barrels, and California 450,000 barrels.

California's picture would not be quite as good as these figures, which are based on a straight 50 per cent cut in production, seem to indicate because such a rate of imports would assume the elimination of exports. Our total domestic production would be reduced to 2,250,000 barrels daily.

Picture Oklahoma, Texas, Louisiana, California, and other oil producing states with a dying oil industry. Employment, taxation, maintenance of schools and other public institutions in many cases depend almost entirely on oil production for their existence. The landowners would no longer receive the millions of dollars they are now paid for lease bonuses, rentals and royalties.

If we were to buy all of our requirements from the cheapest source, there would be very little earning power remaining since most goods would come from abroad where wages are but a fraction of that paid in the United States. There is no more logic in saying that our oil should be produced in Venezuela than to say that our steel should be produced and furnished in Mexico, our silver and zinc in South America, our wheat grown in Canada, and our beef supplied from Argentina.

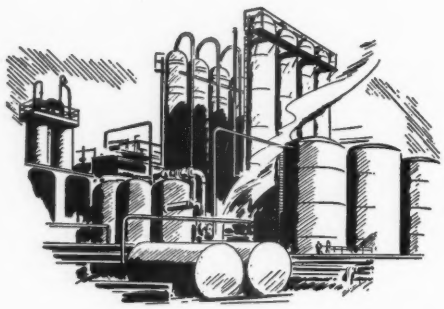
The consumer of petroleum could readily be harmed rather than helped from such a program. Those few companies who are large domestic producers also hold the largest reserves of foreign oil. They could readily supply their part of the billion barrels of imported oil at an attractive profit from their foreign holdings. The producers, refiners and marketers who depend on domestic oil would no longer furnish the competition which has made petroleum products one of the greatest dollar values of any commodity purchased by the citizens of the United States. In countries where competition is lacking, petroleum products cost at least 50 per cent more than in this country.

The experience at the end of World War I should not be ignored in the development of our future course. At that time the purchasers of oil bid the price from $1.98 average in 1918 to $3.07 average for 1920. The result was the greatest wildcatting campaign in the history of the country. New producing areas and horizons were discovered that eventually added billions of barrels to our reserves. Never was the effect of price more clearly demonstrated. The threatened shortage was turnd into a surplus that is serving the nation today.

The domestic oil industry has been on a starvation diet of inadequate price, manpower and materials. Before planning its demise it would be well to turn it loose and give it an opportunity to demonstrate its ability to replace the oil reserves depleted during the war and rebuild the producing capacity of the nation.

Foreign Oil

The two principle producing areas which threaten the oil market of the United States, if not the world, are the Middle East and the Caribbean. The Middle East has been recently more in the limelight be-



70 years of confidence

With 1945 already several weeks old, most folks have settled down to another 365 days of work-to-win effort on the home-front. The war continues to shadow our happiness. Yet all can hope this year's end will find this nation a lot farther along the tough road to Victory.

It happens that, for ourselves, 1945 is a very special year. It is our 70th anniversary. Years totaling three score and ten have passed since Standard's first drilling crew manned a "spring-pole" drill-rig in Pico Canyon of California — and struck oil.

Since then our progress has been steady by jerks — terrific jerks. At first — in the days of the Hayes-Tilden election contest and Custer's last stand—our job was to furnish a better illuminant than whale-oil and candles. Kerosene was the thing.

Came Edison and electricity. Came Ford and automobiles. Our world was overturned—and re-overturned. Gasoline became the thing. And around the corner were the Wright brothers and the airplane.

Now, war has given our business the biggest wrench of all. Oceans of petroleum products — both regular and special — are absolute musts. Hundred-octane aviation gasoline is the thing. Since we're all out for war, it's sure the shift to peace some day will have its problems, too. But, after 70 years in business, we've learned to face every tomorrow with confidence.

We've learned too, that we do best when you do best. In peace as in war, we all depend on one another. Our 70th anniversary can be the sort of year we want, only if it's a good year for you, too. Always, we know at 70, the general welfare is *the* thing.

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cause of the proposed Saudi Arabian pipe line as a government-owned project.

I object to that pipe line because, among other things, it (1) put the United States Government into the oil business and (2) serious repercussions could result from placing on the market large volumes of oil for which there was no foreseeable demand.

Oil reserves of the Middle East can be almost anything you wish to state them. DeGolyer reported upon his return from an investigation of that area that the actual proved reserves amounted to 16,000,000,000[1] barrels and the indicated reserves are between 25,000,000 and 27,000,000[1] barrels. Eliahu Ben-Horni, in the January, 1945, issue of "World Petroleum," in discussing Soviet demands in Iraq, mentions a possible 50,000,000 barrels or more. "The Oil and Gas Journal" in the December 30, 1944, issue says, "more liberal technicians contend that the abundance of favorable structural conditions support the high projection of reserves to 100,000,000,000 barrels." I have heard these reserves by a well informed source as a possible 200,000,000,000 barrels.

These immense reserves were discovered by drilling approximately 160 wildcat wells. Any one of the larger producing companies are operating that many or more drilling rigs within the borders of the United States has required perhaps 50,000 wildcat wells.

While oil wells of the United States produce barrels per day, oil wells of the Middle East can produce thousands of barrels daily. When the Axis nations were threatening the Middle East oil fields, all but five of the 58 wells in the Kirkuk field in Iraq were plugged. These five wells produced an average of 76,500 barrels daily during 1944—more than 15,000 barrels per well per day. That is the kind of competition this country will face at the end of the war. That is one of the reasons I want to see a sound Anglo-American oil agreement, with other producing countries such as Venezuela and Russia joining, before the immense potential producing capacity developed for war purposes is thrown on a market that has no need for it.

South American Production

During 1938, the last prewar year, the oil production from South America totaled 671,625[2] barrels daily. During 1944 it increased to an estimated 925,342[2] barrels daily.

Venezuela is reported to be scheduled for 1,000,000 barrels daily and Colombia for 80,000 barrels daily in 1945. With these increases, total South American production will reach 1,212,000 barrels daily during 1945, an increase of 540,000 barrels daily over 1938.

Middle East Production

In the Middle East, or Near East as it is described in many instances, the daily production was 332,572[3] barrels during 1938 and estimated at 433,744[3] barrels for 1944.

An entirely new refinery of 50,000 barrels daily capacity now under construction at Ras Tanure on the Persian Gulf just north of Bahrein Island, and the enlargemement of the refinery on Bahrein, will give Saudi Arabia an outlet for approximately 80,000 barrels per day compared with 16,000 barrels during 1944. The Anglo-Iranian refinery at Abadan has been increased to a capacity of 362,000 barrels daily, and production in Iran will probably be sustained during 1945 at the present rate of 355,000 barrels daily compared with 279,000 for 1944. Current production in Iraq is 10,000 barrels daily above the 1944 rate.

All of this adds to a probable production in the Middle East during 1945 of 584,000 barrels, an increase of 251,000 barrels daily over the year 1938.

The Saudi Arabian pipe line seems to be pretty well dead as a government owned project, but it is far from that as a privately owned and operated line. The oil trade press reports that a reconnaissance survey indicates it is a practical undertaking and that it may present even less construction difficulties than the Big Inch and Little Inch Lines. The planned capacity is given as 250,000 to 300,000 barrels daily. This additional production available on the eastern shore of the Mediterranean will no doubt call for the construction of additional refining capacity of the same amount.

Iraq Petroleum now has an application with the Petroleum Administration for War for approval of a 12 inch pipe line to partly parallel the present 12 inch line to Haifa which would make possible the delivery of an additional 115,000 barrels daily from Iraq.

These two lines when completed will add 350,000 to 400,000 barrels production to the 585,000 planned for 1945, bringing the total very close to 1,000,000 barrels daily from the Middle East area.

With South American production at 1,200,000 barrels daily, this would make available 2,200,000 barrels daily from these two areas compared with a prewar (1938) volume of approximately 1,000,000 barrels.

Price Competition

Oil from the Persian Gulf can be delivered F.O.B. New York via tanker (not through a Saudi Arabian Pipe Line) at an out-of-pocket cost of $1.17½[4] per barrel. There is a difference in refinery realization of 20 cents per barrel in favor of East Texas oil which brings the competitive cost to $1.37½ per barrel. If and when the Saudi Arabian Pipe Line is built, this cost will be reduced an estimated 13 cents per barrel.

The price of East Texas oil F.O.B. New York harbor is $1.64[4] per barrel, which allows the Middle East producer a margin of 26½ cents per barrel if he sells at a price competitive with East Texas.

A similar calculation shows that in the case of competition with Kettleman Hills' oil of 38 gravity, the Middle East producer has a margin of $.25½[5] per barrel for profit on the investment in production and transportation, which for all practical purposes is the same as the Eastern seaboard competitive situation.

Kettleman Hills was selected so as to offer a California Crude as near like East Texas as possible. Signal Hill oil of 27 gravity was calculated and the answer was the same. The price of crude and transportation costs were lower but Middle East oil has a refining advantage over Signal Hill instead of a dis-

electric pumping is smooth

There is no smoother, more dependable method of operating oil pumping equipment than with an electric motor powered by central station-generated electricity. Pumping machinery runs more evenly . . . steadily . . . efficiently, with minimum wear. Time, labor and materials are saved because fewer repairs are needed. There are no shut-downs caused by power failure.

Smooth operation is important, yes. But pumping with purchased electric power has other equally important advantages: Lower installation, operating and maintenance cost on the motor. No horse-power waste because electrically-driven equipment can be operated at the speed which exactly matches the load. Push-button starting or, if desired, completely automatic operation.

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advantage as in the case of Kettleman Hills.

Let us remember that these figures are not based on a Saudi Arabian Pipe Line. This oil can be offered in large volumes at these costs almost as soon as tankers are freed from war use. It will require but little new drilling, which is planned to be completed during the current year. This foreign oil can be used to freeze domestic prices at their present level or lower if offered in volumes the market cannot absorb.

World Demand Postwar

Where will all of this oil find a market? During 1938, the total demand for petroleum and products in Europe and Africa amounted to approximately 1,000,000 barrels daily. Two hundred thirty-five thousand (235,000) barrels were supplied from within their own boundaries leaving 765,000 barrels to be supplied from outside sources. Of this amount 235,000[e] were imported from the United States and 340,000 barrels from South America and the Caribbean area. The remainder was supplied (with the exception of a few thousand barrels) from the Middle East.

If European and African demand is comparable with that of 1938 during the immediate postwar period, there will be a market for 735,000 barrels daily of petroleum and products in those two continents. To supply that market there will be a sure 1,800,000 barrels and a probable 2,200,000 barrels daily from South America and the Middle East. In short words, there will be 1,000,000 to 1,400,000 barrels of oil daily "looking for a home" from these two sources alone.

It is pertinent to ask at this time whether the statement "equal access to trade" contained in the pledge in the Atlantic Charter and reiterated in the Master Lease Agreement means unrestricted opportunity to market this oil within the United States?

Will our government expand the Good Neighbor Policy to the point where it will follow the recommendations of the National Planning Association to import 50 per cent or more of our domestic oil requirements?

Russia and the Far East are unknown factors at the present, but Russia has proved reserves of more than sufficient magnitude to take care of its requirements. In fact, Drew Pearson got "off base" in an article in the December, 1944, issue of "Cosmopolitan" magazine when he forecast that during 1945 Russian oil would be imported into the United States and stored in the "depleted" oil sands of the Pennsylvania region. This is impracticable. Russia, however, may well become an exporting nation.

U. S. Demand

The Committee on Petroleum Economics of the Petroleum Industry War Council prepared a summary of four studies made by individuals and publishers, on the probable postwar demand for petroleum and products. All of these authors assumed that European hostilities would have terminated by the end of 1944 and the Japanese war by the end of 1945, with the exception of one who estimated the end of the global war by the middle of 1945.

These estimates average 4,424,000 for 1946 after estimating exports at 282,000 barrels daily compared with 531,000 for 1938. Current production is running approximately 5,000,000 barrels daily. While this is 600,000 barrels above the estimated demand for 1946, according to those who are well informed, the country is now producing conservatively 200,000 barrels per day beyond the maximum efficient rate in order to meet war and civilian requirements. Nature will also play its part in a natural decline which may make the adjustment less severe than is anticipated at this time. The state regulatory bodies in those states having conservation laws, and the oil industry in others must act courageously and fearlessly to bring production in line with demand and prevent waste through holding production to the point where unneeded oil will not be placed in above-ground storage.

The drop in demand should be of comparatively short duration. These estimates show increasing demand until by 1949 the total averages 4,870,000 barrels daily, including 148,000 barrels daily exports. Three estimates were made for 1950 which average 5,054,000 barrels daily, including 129,000 barrels daily of exports.

I am more concerned about the attitude of our government towards the importation of cheap foreign oil than I am about our inability to adjust promptly our internal production to market demand.

Anglo-American Oil Agreement

After getting off to a bad start and having many ups and downs in its course, the Anglo-American Oil Agreement seems on its way to a successful conclusion.

The National Oil Policy Committee of the Petroleum Industry War Council worked long and hard in complying with the request of the Petroleum Administration for specific suggestions to remove industry's objections to the original agreement. I have never worked with a group which had greater sincerity of purpose than the members of this committee. It is an experience I will long remember with great satisfaction and pleasure.

The recommendations of the committee which were approved unanimously by the Petroleum Industry War Council were given every consideration by the Petroleum Administration, and the industry has reason to believe that a new agreement will be submitted to Great Britain that will be satisfactory both to the government and the oil industry. It is a good example of industry-government relationship, when both are working to accomplish the same purpose.

The original agreement has been withdrawn from the Foreign Relations Committee of the United States Senate. Any agreement to replace this one should be resubmitted as a treaty. Through this procedure there will be an opportunity for free and open discussion. Government (through the United States Senate), industry, and the public will have an opportunity to study and consider the final document agreed upon between the United States and Great Britain and express their views.

It is through the medium of such an agreement that a postwar world oil war may be averted. There must be an orderly offering of oil in in-

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ternational trade if there is to be a healthy world oil industry and, in turn, a strong domestic oil industry. If a world oil war develops, the business life of the independent producer will be in jeopardy. The large companies who have foreign oil holdings will be both the aggressors and the defenders. They will win either way. The independent producer will be the casualty.

I believe an international agreement on oil would be helpful to independent producers that:

1. Applies only to oil in the international petroleum trade.
2. Has no reference to the production of crude oil.
3. Has a commission set up thereunder with advisory powers only.
4. Cannot be construed to apply to the domestic oil industry, and
5. Specifically permits each country to take such action as it may desire to limit the amount of petroleum to be imported.

A Program

The future of the domestic producer of oil, particularly the independents, depends a great deal on our government's attitude toward the importation of crude oil. The adoption of a policy of importation for a major source of supply would freeze domestic reserves at their present level or lower.

Two of the leaders of the oil industry have enunciated policies towards imports that could form a basis for a sound policy on this most important subject, both for our government and industry.

Robert E. Wilson, Chairman of the Board, Standard Oil Company (Indiana), in an article entitled "The Future of our Oil Supplies Assured by Technology" published in the January issue of "Mining and Metallurgy," states in part:

"Private industry will never go aggressively into the development of oil from shales and coal as long as crude prices remain around the present levels. It seems to me the sound thing to do would be to keep enough oil coming in so that there will be no lack of transportation or legitimate industry, but not so much as to prevent domestic crude prices from being high enough to keep our geologists and drillers hunting for oil and our chemical engineers interested in developing substitute sources."

The Standard Oil Company of New Jersey in their booklet, "Oil for the World," issued during the early part of 1944, stated a policy on imports that is in accord with the traditional policy of the Independent Petroleum Association of America on this subject. It states: " . . . that the importation of oil into the United States not be destructive to our own oil industry and domestic economy.

"When oil or oil products must be imported to supplement the domestic supplies of the United States, this should be done without so damaging our industry that the finding and development of reserves here would be hampered. Hence, imports should be admitted only for special purposes or to supply requirements that could not be met by orderly and efficient withdrawals from American fields."

Our future security and well-being demand that industry and government set to work earnestly and intelligently to provide a program which will lay great stress upon the finding and development of crude oil reserves within the boundaries of the United States.

The statements of policy on imports by the Standard Oil Company of Indiana and the Standard Oil Company of New Jersey are constructive. Similar statements by other holders of large foreign oil reserves and the Department of State could go far in assuring the domestic oil producer and the public that our nation will not be dependent on oil from foreign lands.

With such encouragement the oil industry of the United States can have confidence in going ahead to increase the oil reserves and producing capacity of the nation to make us self-sufficient in both time of peace and time of war.

APPENDIX

(1) ESTIMATED OIL RESERVES OF MIDDLE EAST
By E. De Golyer
(Thousands of barrels)

Country	Proved Reserves	Indicated Reserves
Iran	5,000 to 6,000	6,000 to 7,000
Iraq	4,000	5,000
Kuwait	4,000	9,000
Saudi Arabia and Bahrein	2,000	4,000 to 5,000
Quatar	500	1,000
	15,500 to 16,500	25,000 to 27,000

(2) ACTUAL AND ESTIMATED OIL PRODUCTION FROM SOUTH AMERICA (a)
(Barrels daily 42 gal.)

Country	1938 Actual	1944 Estimated	Net Incr.
Argentina	46,784	66,120	19,336
Bolivia	619	1,161	542
Colombia	59,129	64,208	5,079
Ecuador	6,153	6,831	678
Peru	43,395	57,377	13,982
Venezuela	515,545	729,508	213,963
Others	0	137	137
Total	671,625	925,342	253,717

(3) ACTUAL AND ESTIMATED OIL PRODUCTION FROM MIDDLE EAST (a)
(Barrels daily 42 gal.)

Country	1938	1944	Net Incr.
Egypt	4,331	24,590	20,259
Iran (Persia)	214,718	278,689	63,971
Iraq	89,433	90,164	731
Saudi Arabia	1,356	16,394	15,038
Bahrein	22,734	23,907	1,173
Total	332,572	433,744	101,172

(a) Oil Weekly, December 11, 1944, Trends of Crude Oil Production by Countries.

(4) COMPETITIVE COST OF MIDDLE EAST AND EAST TEXAS OIL F.O.B. NEW YORK
(Middle East Oil via Suez Canal)

Middle East	Per Barrel
Production Cost	$ .10
Royalty Average	.21
Tanker from the Persian Gulf to New York via Suez Canal. Present day, modern tanker, foreign officers and crew	.61
Unloading cost, New York	.02
Present tax on imported oil from countries having "friendly nations contracts"	.10½
Toll Charge through Suez Canal	.13
Total out-of-pocket cost	$1.17½
Difference in refinery realization against Arabian oil	.20
	$1.37½

East Texas	Per Barrel
Market Price	$1.25
Gathering Charge Published rate	.05
Pipe Line to Gulf Published rate	.10
Loading at Gulf	.02
Tanker to New York. Present day, modern tanker, American crew. Foreign crews cannot operate coastal vessels	.20
Unloading Cost, New York	.02
	$1.64

(5) COMPETITIVE VALUE OF MIDDLE EAST AND CALIFORNIA OIL F.O.B. LOS ANGELES REFINERIES

Middle East	Per Barrel
Production Cost	$ .10
Royalty Average	.21
Tanker from the Persian Gulf to Los Angeles refineries. Modern tanker, foreign officers and crew..	.61
Unloading cost	.02
Present tax on imported oil from countries having "friendly nations contracts"	.10½
Total out-of-pocket cost	$1.04½
Difference in refinery realization against Arabian oil	.20
Total Competitive Cost	$1.24½

Kettleman Hill's 38 Gravity	Per Barrel
Market Price	$1.33
Gathering and Pipe Line transportation costs	.17
Total F.O.B. Refinery	$1.50

(6) UNITED STATES EXPORTS OF CRUDE PETROLEUM AND PRODUCTS DURING 1938

Country	Total Exports	Daily Average
North America(a)	41,436,714	113,500
South America ..	18,977,277	52,000
Europe	82,976,577	227,300
Asia	36,196,146	99,200
Africa	3,551,036	9,700
Oceanic	11,092,802	30,400
Unknown	—502,552	1,300
Total Exports	193,728,000	530,800

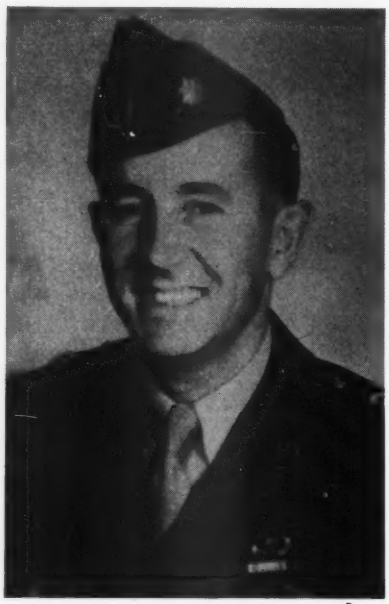
(a) North America includes exports to Alaska, Canada, Cuba, Mexico, Panama Canal Zone, Puerto Rico, and a small amount of "others".

NOTE: Total exports are reported figures from Bureau of Mines. Countries by destination are reported figures from U. S. Department of Commerce. "Unknown" includes adjustment covering discrepancies between figures from above two sources.

L. A. Braden Returns to Tide Water Associated

After serving with distinction in the invasion of France on D-Day, being decorated with the Bronze Star Medal for meritorious service in Normandy, and with letters from the Commanding General of the Eighth Air Force, "Jimmy" Doolittle and from Major General Curtis E. LeMay commending him for special services, Major Lawrence A. Braden has returned to civilian life in Southern California and has taken up his former business connection with Tide Water Associated Oil Company.

Major Braden had been Assistant Petroleum Engineer with Tide Water Associated for five years when he entered the armed forces shortly after Pearl Harbor, beginning as a Lieutenant and finishing as Major with the rating of a "superior." He was an officer of the famous 101st Airborne Division which received so much recognition in the holding of Bastogne during the Nazi breakthrough. He invaded France on D-Day with the 501st Paratroop Infantry, and had 550 men under his supervision.



Major Lawrence A. Braden

Major Braden was injured when he landed by parachute on the roof of a two-story house in the village of Ste. Marie-du-Mont, France. Despite this injury and the fact that the village was strongly held by enemy forces, he fought his way out of the village. When clear of the village he oriented himself and started for his battalion assembly area. Enroute he assembled several other parachutists and joined elements of his battalion and division headquarters moving on the town of Pouppeville. Major Braden and his group were given the mission of protecting the flanks and rear of the main body during the advance. Several small attacks were made by the enemy, one of which Major Braden personally repulsed although armed only with a pistol. In the citation for this meritorious service it is stated that "his actions were in accordance with the highest standards of the military service."

After the injury he suffered in his parachute landing on D-Day, Major Braden served continuously until he was rendered physically unfit for further active duty.

Major Braden has returned to his home in Los Angeles, and has taken up his duties as Petroleum Engineer for Tide Water Associated Oil Company at Ventura.

Eshelby F. Lunken Dies Suddenly

Eshelby F. Lunken, President of The Lunkenheimer Company, Cincinnati, Ohio, valve manufacturers, died suddenly January 25, 1945, of a heart attack. He was 54 years of age.

At the time he was stricken, Mr. Lunken was making preparations to attend the annual dinner of the Nationel Association of Manufacturers as a guest of honor. The Lunkenheimer Company having been one of the Cincinnati firm which founded the NAM.

He was a leader in business and civic affairs and was actively interested in aeronautical development, having been a moving spirit in the establishment of Lunken Airport. He also worked closely with the Committee for Economic Development, of which he was a member.

Mr. Lunken was a son of Edmund H. Lunken, who at the time of his death in July, 1944, was Chairman of the Board. He was connected with The Lunkenheimer Company for 35 years and served as President 26 years. He was a grandson of Frederick Lunkenheimer, founder of the Company.

New Honors for Los Angeles Steel Casting Co.

Los Angeles Steel Casting Co., the oldest foundry in the Los Angeles area, has been awarded a Second Gold Star for addition to their Maritime "M" awards. This honor given as evidence of production merit and continuing support of the nation's war effort was extended by E. S. Land, Chariman of United States Maritime Commission. Los Angeles Steel Casting Co. has contributed greatly toward the building of many ships, urgently needed for successfully prosecuting the war.

Application of the Alignment Chart to the Rapid Solution of Oil Field and Geological Problems

By L. R. Merryman

The British-American Oil Producing Company, Los Angeles, California.

The author has designed a number of alignment charts or nomographs which are used to solve some of the routine problems that are found in the petroleum engineering and geological departments of oil companies. This article is to be the first of a series which will describe the application and use of the charts.

The use of the charts results in answers which are within the limits of accuracy of the original data because of the various assumptions which must be made before many of the problems can be solved.

It must be emphasized that the charts only solve the mathematical computations involved after a competent petroleum engineer or geologist has determined the conditions which will control and limit the constants used. For example, the chart presented with this discussion is designed to solve problems involving future rates or total production when the per cent decline rate is known. It is obvious that the reliability of the answers found is dependent on the judgment of the person who determines what the rate of decline will be during the period considered.

The forecasting of future production rates or computing the total future production are typical of problems which must be solved by the petroleum engineer.

Problems of this type are readily divisible into two parts: First, the type of decline control and rate of decline must be determined; and, second, the routine calculations must be made. The mechanical task of computing future rates or suming up the estimated monthly production often consumes a major portion of the time permitted to complete the estimate. The accompanying alignment chart has been constructed to facilitate the completion of the task after the decline rate has been determined. The chart may also be used in reverse to determine the percentage decline rate if the monthly production for yearly intervals is available.

Design of Alignment Chart

The chart is designed for wells that decline in conformity with a geometric progression, which can be expressed algebraically as follows: a, ar, ar^2, ar^3, ar^n. To solve oil well decline problems of this type, the following fundamental formulas derived from the laws of geometrical progressions are used:

1. $l = ar^{n-1}$

2. $s = a\dfrac{(1-r^n)}{1-r}$

Where: a=First term r=Ratio
l=Last term s=Sum
n=Number of terms

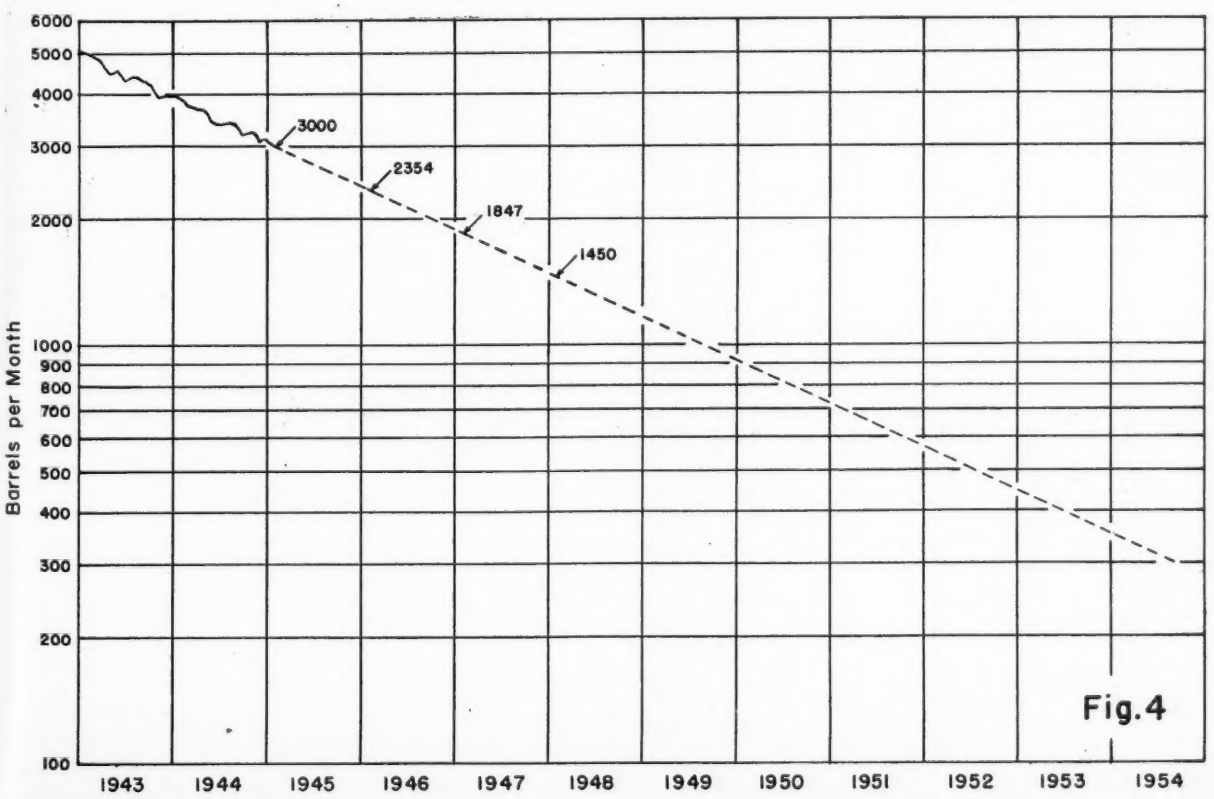


Fig.4

ALIGNMENT CHART FOR DETERMINING THE DECLINE RATE AND PRODUCTION OF OIL WELLS

Copyright 1944 by L.R. Merryman

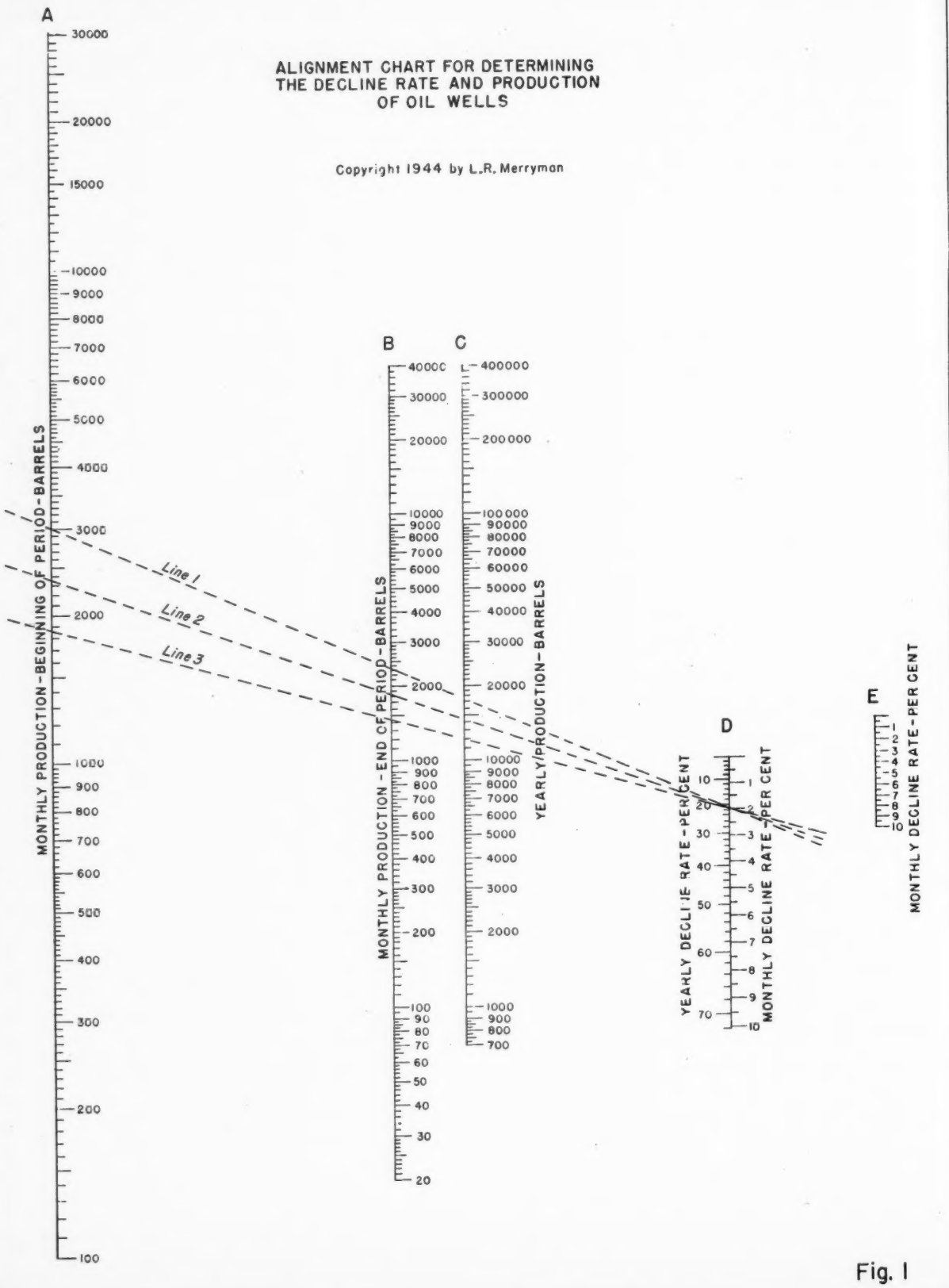


Fig. I

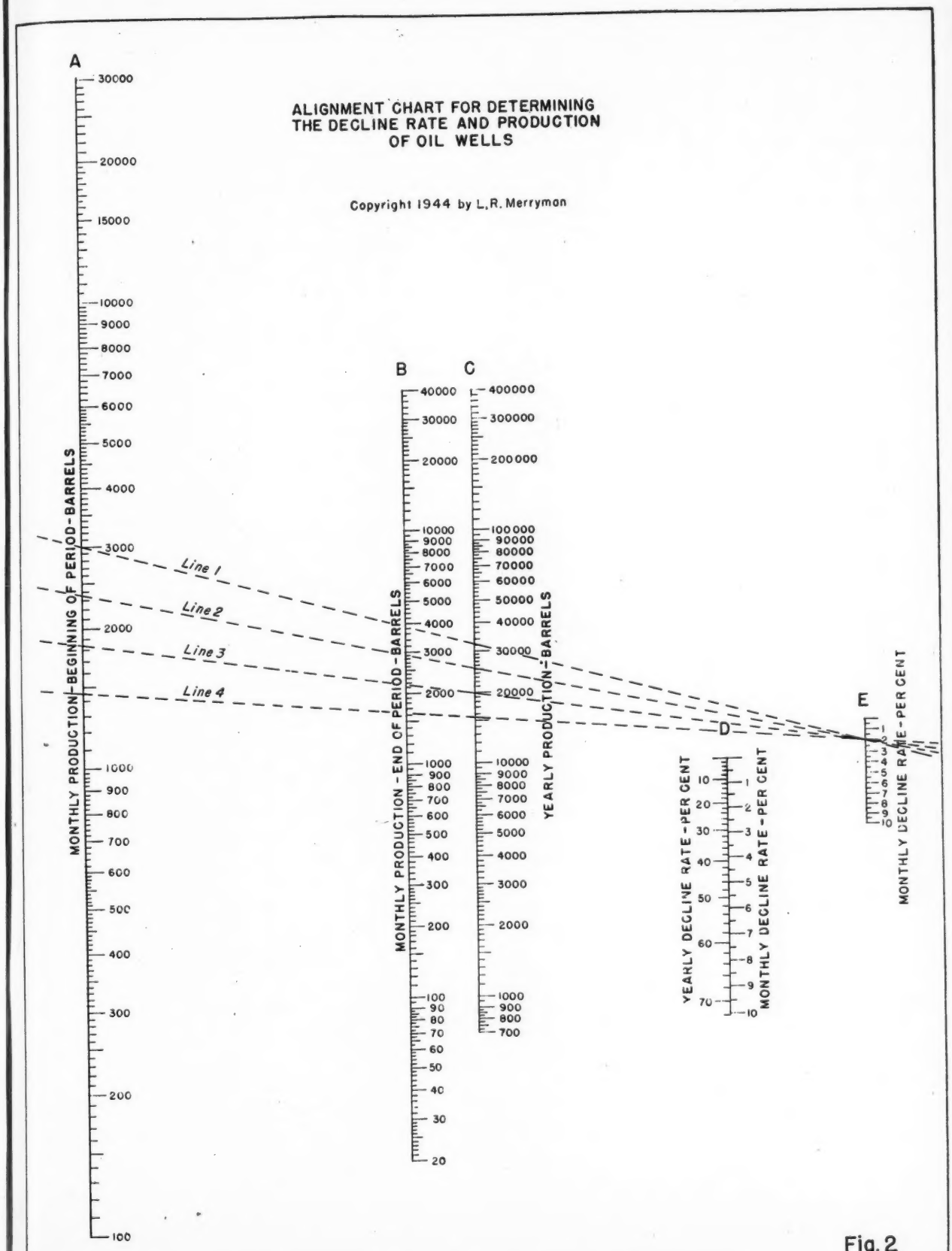
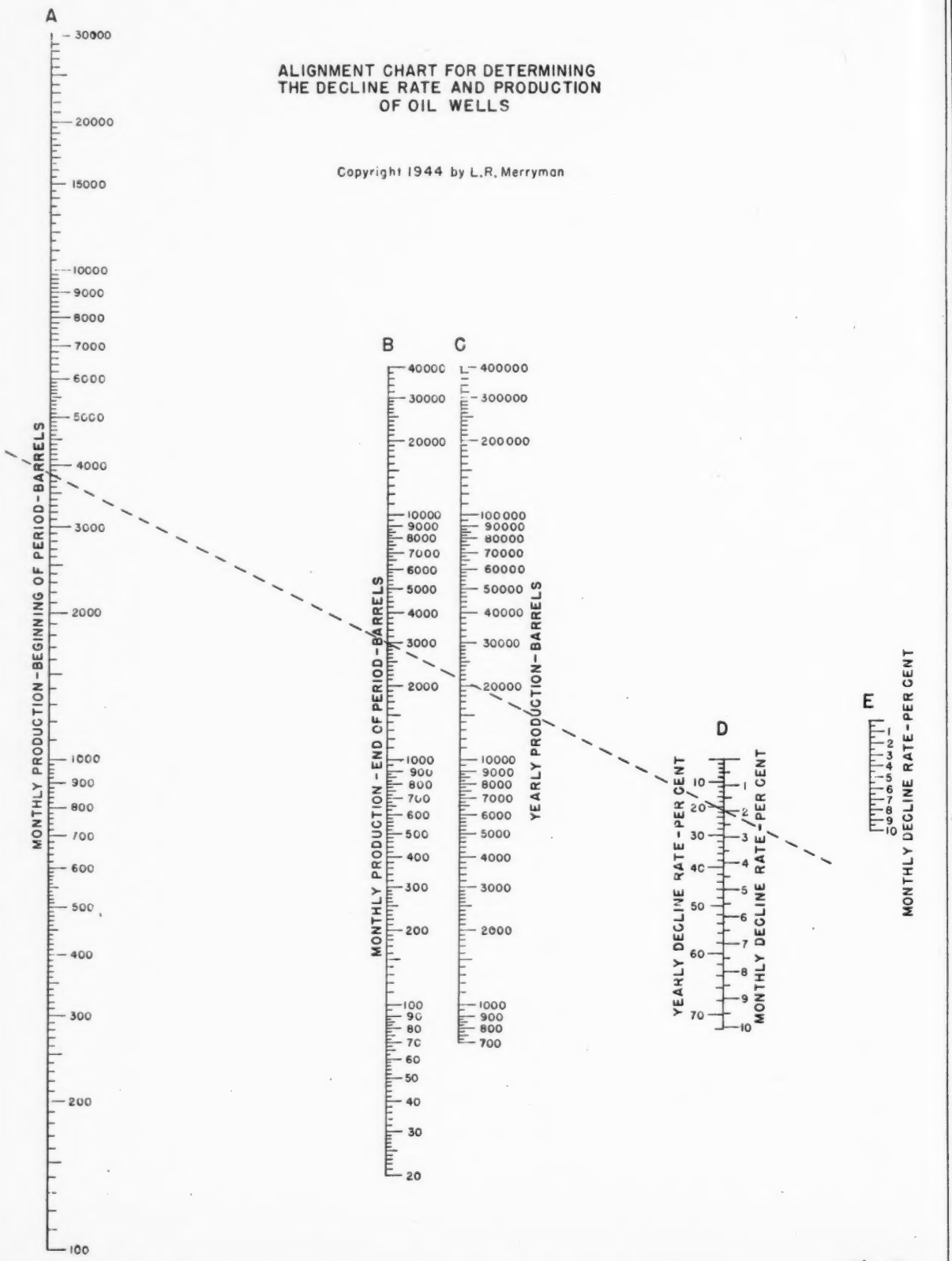

ALIGNMENT CHART FOR DETERMINING THE DECLINE RATE AND PRODUCTION OF OIL WELLS
Copyright 1944 by L.R. Merryman
A
B
C
D
E
MONTHLY PRODUCTION - BEGINNING OF PERIOD - BARRELS
MONTHLY PRODUCTION - END OF PERIOD - BARRELS
YEARLY PRODUCTION - BARRELS
YEARLY DECLINE RATE - PER CENT
MONTHLY DECLINE RATE - PER CENT
MONTHLY DECLINE RATE - PER CENT
Line 1
Line 2
Line 3
Line 4

Fig. 2


ALIGNMENT CHART FOR DETERMINING
THE DECLINE RATE AND PRODUCTION
OF OIL WELLS
Copyright 1944 by L.R. Merryman
A
MONTHLY PRODUCTION - BEGINNING OF PERIOD - BARRELS
30000
20000
15000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
900
800
700
600
500
400
300
200
100
B
MONTHLY PRODUCTION - END OF PERIOD - BARRELS
40000
30000
20000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
900
800
700
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400
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90
80
70
60
50
40
30
20
C
YEARLY PRODUCTION - BARRELS
400000
300000
200000
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
9000
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3000
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900
800
700
D
YEARLY DECLINE RATE - PER CENT
MONTHLY DECLINE RATE - PER CENT
10
20
30
40
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70
1
2
3
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8
9
10
E
MONTHLY DECLINE RATE - PER CENT
1
2
3
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5
6
7
8
9
10

Fig. 3

The above equations are solved by use of the accompanying alignment chart. Wells which decline in accordance with the above laws are also called the "exponential," "semilog," or "constant percentage" decline.

Application of Charts

In practice the chart has a wider application than utilization on those wells which decline in conformity to the above conditions because many engineers and geologists assume that the wells will behave in this manner in the future when there are many wells to be considered. This assumption is justified where the period of the forecast is short or there are many types of wells or properties to be extended.

The accompanying production curve, figure No. 4, drawn on semilog paper, is shown for illustrative purposes.

Examples of Use

The actual figures used on all the following illustrations are determined mathematically. The computations were made to show how accurate the answers found by use of the charts can be when care is taken in placing the straight edge and making the interpolations.

Example No. 1: It is necessary to forecast the monthly rate of production for future years for a property. The engineer knows from past history that the property is declining at the rate of 2% per month. The well is currently producing at the rate of 3000 barrels per month. The required data, as shown on figure No. 1, can be determined from the alignment chart as follows. A straight edge is placed at 3000 on scale A and 2.0 on the right-hand side of scale D. The answer, 2354, is then read on scale B. The lines on figure No. 1 show how a series of readings can be taken. The answers are shown in the following tabulation:

Year	Production Rate	
Present	3000 bbls per month	
1st succeeding year	2354 bbls. per month	Line No. 1 on Figure 1 shows answer
2nd succeeding year	1847 bbls. per month	Line No. 2 on Figure 1 shows answer
3rd succeeding year	1450 bbls. per month	Line No. 3 on Figure 1 shows answer

Tabulation can be continued until end of period considered in study.

It should be noted that the period considered is not the first and end of a given year but the beginning of two successive years. If there is any confusion in the mind of the reader he should make a year's computation on a slide rule, then plot them and compare them with the results obtained on the alignment chart.

Example No. 2: It is necessary to forecast the total production of a property. The same property will be considered as in example No. 1. The data, as shown on figure No. 2, can be determined from the alignment chart as follows: A straight edge is placed at 3000 on scale A and at 2.0 on scale E. Answer, 32,280, is then read on scale C. The lines on figure No. 2 show how a series of readings can be taken. The answers are shown in the following tabulation:

Year	Prod. Rate (From 1st Example)	Yearly Prod.	
Present	3000	32280	Line 1 on Figure 2 shows answer
1st succeeding year	2354	25329	Line 2 on Figure 2 shows answer
2nd succeeding year	1847	19874	Line 3 on Figure 2 shows answer
3rd succeeding year	1450	15602	Line 4 on Figure 2 shows answer

Tabulation to be continued until economic limit is reached.

Example No. 3: The production rate is available for the beginning of two successive years and it is desired to know the percentage decline rate. The present rate is 3000 barrels per month and the rate one year ago was 3823 barrels per month. This is solved by use of scales A, B, and D and is shown on figure No. 3. A straight edge is placed at 3823 on scale A and at 3000 on scale B. The answer, 2% per month, is then read on the right side of scale D. This is equal to 21.5% per year as shown on the left side of scale D. If the chart is used in this manner the past production should first be plotted on semilog paper to ascertain if the decline approximates a straight line.

In the first two examples discussed, many engineers would prefer to read the answers directly from the semilog paper; but in most forecasts of production, many properties are involved and curves are not already prepared. However, if the decline rate has been determined, the computations can be made directly from the alignment chart and it is not necessary to refer to the decline curves. The chart is especially useful if the mechanics of extension can be turned over to subordinates. A person who is not familiar with charts and graphs is less likely to make a mistake on the alignment chart than on coordinate paper. The semilog paper is especially confusing to persons who are not trained mathematically. After a short practice period, any intelligent secretary or clerk can read the alignment charts quickly and correctly.

While the alignment chart shown with this paper is limited to use on studies which are made in time periods of one year, other charts could be made to cover other desired time periods.

The chart to be described next month was designed to determine the future rate of production for any year up to 25 years when the decline rates range from 1% to 40% per year. The chart may also be used in reverse order to determine what the decline rate has been if the production data for previous years is available and is considered to be declining at a constant per cent rate.

*This series of papers on nomographs will appear in the first issue of the month. Editor.

Fluor Issues New Bulletin

Cooling Tower (Atmospheric Type) Bulletin: Contains data for calculating Cooling Tower sizes, essential points in Cooling Tower selection and details of construction and operation of Fluor Aerator Cooling Towers. Illustrated with photographs of typical installations, section drawings and performance charts; 20 pages. Available on request to The Fluor Corporation, Ltd., 2500 South Atlantic Boulevard, Los Angeles 11, California.

BUY WAR BONDS

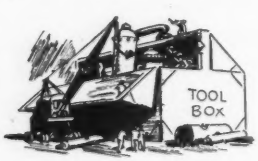
Norm Tessner, 403 E. Center St., Anaheim, Calif.

Norm Tessner has a $35,000 kit of tools

1 Norm Tessner is a Union Oil well puller. Like any other skilled workman, Norm has to have tools. The principal "tool" in his case is a portable rig which pulls the tubing and the pump out of the wells. Without that rig Norm simply couldn't practice his trade.

2 So in order to use his skill, Union first had to provide him with a portable derrick and machine that cost $35,000. At first glance this may seem like a lot of money. But it takes even more than that to provide working equipment *for each employee in the Union Oil Company.*

3 Of course, it only takes a $90 typewriter to provide the working equipment for a stenographer. But on the other hand, it takes a $4,000,000 refining unit to make jobs for just 25 stillmen. And if the company is going to function as a unit, one phase of the work is just as necessary as the other.



4 So the Union Oil stockholders have actually invested $39,504 (in refineries, ships, tools, rigs, oil lands, etc.) for *every one* of the 7,869 employees in the company. This figure shows how drastically the machine age has altered American life.

5 75 years ago almost any man could buy what simple tools he needed himself. Today, in many industries tools cost so much the *individual* simply cannot finance them. The answer is *multiple ownership*—pooling the money of a lot of people. (In Union's case, 31,375 stockholders have helped finance our equipment.)

6 Of course, some countries form these pools by *government ownership.* But in America we form them under legal agreements known as *corporations.* For that way, we can preserve the *freedom* of the individual, the *efficiency* of a free economy and that all-important human incentive—*competition.*

UNION OIL COMPANY
OF CALIFORNIA

This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Bldg., Los Angeles 14, Calif.

AMERICA'S FIFTH FREEDOM IS FREE ENTERPRISE

THIS LAUGH

OFF!!

Boy, looking with amazement through a telescope: "Gawd!"

"Go on," said a friend. "It ain't that powerful."

Mary, aren't you getting too big to play with the boys?

No, mother, the bigger I get the better I like them.

Two little girls were sitting on the curb in front of a house.

"My sister is getting married tomorrow."

"Yeah?"

"Yup. She's upstairs now getting her torso ready."

"Brothers," said the colored preacher, "the subject of mah sermon today is liars. How many in dis congregation have read the sixty-ninth chapter of Matthew?" Nearly every hand went up.

"You is the people ah wants to preach to," the reverend said. "Dere is no such chapter."

"You've got nerve to ask me to let you marry my daughter Flossy! Why, you couldn't even keep her in underwear!"

"Well, Mr. Rich, I haven't seen anything that indicates that you have been doing so well yourself."

Grandmother was a diabetic patient, and rather given to "cheating" on her strict diet. After one violation she was sent to the hospital, where the only available room was in the maternity ward. Grandmother was just outside the door when some visitors went past.

"What are you doing here, little girl?"

"I'm visiting grandmother," she replied.

"Your grandmother!" exclaimed one. "What's she doing in here?"

"Oh," said the little girl brightly, "she's been cheating again!"

Walking along a street in the local county seat, a man was attracted by frightened screams from a house. He ran in to investigate and found a frantic mother whose small boy had swallowed a quarter. Seizing the child by the heels, he held him up, gave a few shakes and the coin dropped to the floor. The grateful mother was lost in admiration.

"You certainly knew how to get it out of him," she said. "Are you a doctor?"

"No, madam, I'm from the Internal Revenue Bureau."

My boy friend likes to see me drink
More than a little bit;
Because I am his flame, I guess
He wants to keep me lit.

Sinister looking individual (significantly): "Is your 'usband at 'ome, ma'am?"

Lady (thinking fast): "Well, if he has finished his revolver practice he'll be playing in the back garden with our bloodhounds. Did you want to see him?"

Prosecuting Attorney: "You say that when you visited the nudist colony on the night of the murder, you didn't do a thing while there. Don't you realize you are under oath?"

Old Fellow: "Sure, I'm under oath, but I'm also over 80."

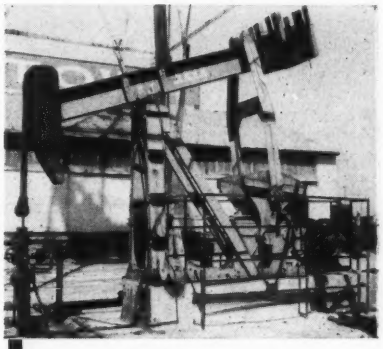
Captain: "Some of the best cooks in the world are in our army."

Private: "What are they doing, sir?"

A lowbrow is a person who likes snappy jokes. A highbrow is a person who won't admit it.

A woman with beautiful teeth is one who laughs at her husband's jokes.

As they left the night club, the cute blonde asked her escort, "Say, what's the idea giving that hat check girl five dollars for checking your coat?" And the escort whispered, "Sh-h, not so loud. I didn't wear a coat tonight."



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Tide Water Associated Expands Program To Augment Crude Oil Reserves

An expanded exploration and development program, designed to augment the company's crude oil reserves, was announced on January 22 by William F. Humphrey, President of Tide Water Associated Oil Company.

L. C. Decius

Due to the importance of developing new sources of crude oil production, L. C. Decius, Vice President, has been appointed Director of Exploration for the Associated Division and will concentrate on this program. Decius, in the service of the company for more than twenty-nine years, is a nationally recognized geologist and has had extensive experience in geological and exploration operations outside the continental United States as well as in this country.

F. A. Menken, Manager of the Geological Department, has been appointed Assistant Director of Exploration. H. W. Gray, for many years Manager of the Land Department, continues in that position.

Mr. Humphrey also announced the appointment of T. L. Wark as General Manager of the Production Department and member of the Operating Committee. Mr. Wark will be responsible for all production activities in the Associated Division. Wark has been associated with the company more than twenty-five years, in the geological, production and engineering end of the business, and in 1937 was appointed Assistant Vice President in which capacity he continues.

T. L. Wark

Falcon Products, Inc., New Coast Manufacturer

The organization of Falcon Products, Inc., manufacturers of slush pump repair parts, is announced by Jack Pike, president of the Company.

H. F. Schlittler

Products of the company are being marketed under the name "Falcon" and are distributed in California and other domestic oil producing areas exclusively through supply stores.

General manager of Falcon Products, Inc. is H. F. Schlittler who is also vice-president of the Company. Mr. Schlittler was formerly with Abegg & Reinhold where he served for more than 14 years. The secretary-treasurer of the Company, Hugh Kirkwood, who also holds the post of production manager, was with Republic for 20 years before joining Falcon Products, Inc.

Hugh Kirkwood

New Catalog Available

The General Pacific Corp., only Western manufacturer of Underwriters approved fire extinguishers and safety equipment, has just published a new catalog, called "The Buyer's Encylopedia."

Complete data is included on alarms and sirens, fire extinguishers, motor fire apparatus, and allied products, as well as safety clothing and equipment, police and first aid equipment, and a variety of items suitable for industrial maintenance.

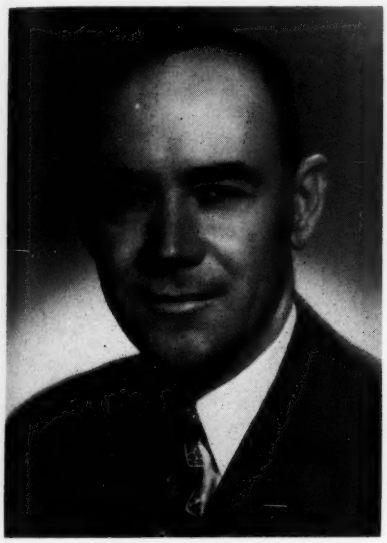
The new publication also incorporates practical information, such as the sections on hose threads, nozzles and fire streams, fire hose maintenance, extinguishers, classification of fires, and pertinent facts on ladder use and care. The book is well illustrated, has complete descriptions of each product, and presents convenient price and ordering information.

A free copy of this buying guide and reference manual may be obtained from The General Pacific Corp., Dept. W, 1800 S. Hooper Avenue, Los Angeles 21, Calif.

Donnelly Advanced by G. P.

Announcement of the election of A. J. Donnelly to the Board of Directors of the General Petroleum Corporation was made on Jan. 22 by President S. J. Dickey.

In addition to his duties as a Director, Donnelly will retain the post he now holds as Manager of Industrial Relations for the company.



A. J. Donnelly

Starting with General Petroleum as a salesman in Seattle in 1924, Donnelly has held various executive assignments in Portland, Oakland, San Francisco and Los Angeles. Prior to moving to Los Angeles last year he was for ten years stationed in San Francisco as the company's Northern California Manager.

Donnelly is very well known throughout the oil business and has served on committees for the American Petroleum Institute and the Petroleum Administration for War in addition to other industry committees.

He is an alumnus of the University of Southern California. His club affiliations include the Los Angeles Country Club, the California Club in Los Angeles and the Olympic and Family Clubs in San Francisco.

W. C. Brooks presents check to Gurney E. Newlin to be used in the Rehabilitation Activities of the Arts and Skills Division, Los Angeles Chapter, Red Cross. Ladies present are in charge of the various divisions of the Rehabilitation work.

Oil Industry Aids Convalescent Servicemen

At a luncheon meeting held in the Biltmore Hotel Jan. 26, the Wildcat Committee of the California Oil and Gas Association presented a check in the amount of $11,825.17 to the Arts and Skills Division, Los Angeles Chapter, American Red Cross, for its work in the rehabilitation of convalescent servicemen carried on in military hospitals.

The contribution represents the net proceeds from the Committee's Christmas Jinks held in December, staged annually in behalf of a worthy cause, and participated in by all branches of the petroleum industry in California.

In making the presentation to Mr. Gurney E. Newlin, Chairman of the Los Angeles Chapter, American Red Cross, Mr. W. C. Brooks, in behalf of the Wildcat Committee said "the Wildcat Committee is proud of the success of its efforts in sponsoring this second benefit function to help finance the Arts and Skills Division in its meritorious work for the rehabilitation of disabled servicemen; such success would not have been possible without the wholehearted support of the oil companies, supply companies, and oil industry personnel in the purchase of tickets for the benefit."

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Field Development

PREPARED BY CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Costa Mesa Well Cores New Sand

Delaney Pet. Co. Karales No. 1, on sec. 19-6s-10w north of the present Newport Beach field production, cored a promising new oil sand above the old Tar zone sands in the interval 1570-2050 ft. The operator is running 8⅝ in. casing to cement at 1600 ft. for production trial of the new formations. Bottomed at 2520 ft. and plugged to 2050 ft., the try found only barren sands in the old field zones. Geologic indications are that the well has uncovered a whole new fault block, the extent of which can only be determined by subsequent exploration.

Northeast of the old field production, on sec. 21-6s-10w, Macoil Company Townsend No. 3 is coring ahead at 5640 ft. after finding the normal field zones in place and, according to usually reliable sources, well saturated. The try will attempt to clearly delineate the deep zone possibilities at this point. Hole has been made slowly due to extremely hard formations.

Rosecrans To Become Active

The 300 bbl. production which Nevada Pet. Co. effected at 4863 ft. on its redrill of Colby No. 3 in the easterly section of the Rosecrans field is prompting new work. Nevada Pet. is skidding in rig to rework the old Bolsa Chica Oil Corp. Wanka No. 3 on an adjacent lease, while Atlantic Oil Co. has acquired and will deepen the old Big Basin Dev. Co. Marland No. 1 in search of the recently discovered producing horizon. Much additional activity is contemplated by leaseowners in the area.

Aliso Canyon Well Completed

Tide Water Assoc. Oil Co. finished Standard-Sesnon No. 1-4 on sec. 28-3n-16w in the Aliso Canyon field. Completed in the Sesnon zone the well was last reported making 446 B/D clean 21.1 gravity oil flowing through two 48/64 in. beans. The company is starting No. 1-5 and is drilling Porter No. 34 in this field.

Dominguez Well In

Union Oil Co. Callender No. 92 in the Dominguez field of Los Angeles county demonstrated anew that this field yet affords much production in spite of its already phenomenal performance. The new producer went to the tanks at 6330 ft. flowing 1066 B/D clean 32.9 gravity oil and 468,000 cu. ft. of gas through a 26/64 in. bean.

Shell Oil Co.'s deep test in the field, Reyes No. 135, is drilling ahead at 10,296 ft.

LOS ANGELES BASIN WILDCATS

Area	Well	No	Section	Depth	Status
Athens	Gen. Expl. Co. of Calif., Johnson	1	11, 3-14	4150	Drilling
Aliso Canyon	Standard Oil Co., Del Aliso	1	29, 3-16	9696	Testing
	Standard Oil Co., Frew	1-3	29, 3-16	7800	Testing
	Standard Oil Co., Ward	3-1	27, 3-16	7563	Drilling
Calabasas	Gillespie, M. L.	1	22, 1-17	2701	Drilling
Castaic	Charter Oil Co., Well	1	18, 5-16		Graded roads
Chatsworth	Shell Oil Co., Schonfeld	1	30, 2-16	5162	Abandoned
La Habra	Assoc. Piping & Eng. Co., Simmons	1	1, 3-11	652	Drilling
Las Llajas	Standard Oil Co., Brady Est.	2-1A		1636	Drilling
Lincoln Park	Dumm Bros. Pet. Corp., Olympic	15	24, 1-13		Rig
Long Beach	Hilo-NW Extension, Steward	1	14, 3-14	6520	Drilling
Newhall	Anderson, J. I., Tomato Can	1	11, 3-16	4350	Drilling
	British-Am. & The Texas Co., NLF	2	21, 4-17		Foundation
Oak Canyon	Western Gulf Oil Co., Stevens	B-1	5, 4-17		Location
Pico Canyon	Standard Oil Co., Pico C. O.	42	1, 3-17	7312	Drilling
Pomona	Jones, Everett, Well	1	17, 2-9	575	Drilling
Puente	Hacienda Oil Co., Well	1	27, 2-10		Location
	Hansen, Melvin, Corehole	3	24, 2-10	1900	Idle
San Jose Hills	Continental Oil Co., Bayley	1	29, 1-9	2125	Drilling
	Ohio Oil Co., Legrand	1	30, 1-9	4495	Drilling
	The Texas Co., Garnier	1	35, 1-10	7125	Drilling
Turnbull Canyon	Capital Co., Capital	1-2	12, 2-11	984	Drilling
Whittier	Hilo Oil Co., Hilo-Cinabar	1	1, 3-11	6010	Suspended
W. Coyote	Standard Oil Co., Lewis	1	11, 3-11		Prep. to spud
	Imperial County				
Brawley	Amerada Pet. Corp., Veysey	1	9, 13-13	4023	Testing
Holtville	The Texas Co., Grupe-Engebretsen	1	8, 16-16	6639	Drilling
	Orange County				
Brea Canyon	Seacoast Oil Co., Wardmann-Comm.	1	3, 3-10	1030	Drilling
Buena Park	Gen. Pet. Corp., Heath	2	34, 3-11	11194	Drilling
	The Texas Co., Stern	1	1, 4-11	10431	Abandoned
Costa Mesa	Delaney Pet. Co., Karales	1	19, 6-10	1900	Drilling
	Macoil Co., Townsend	3	21, 6-10	5465	Drilling
Huntington Bch	Atha Expl. Co., Newland	12-3	12, 6-11	996	Drilling
Kraemer	Mid. Cal. Pet. Co., Mid. Pet.	K-1	24, 3-9	2512	Fishing D.P.
Westminister	Krieger, W. G., Miles	1	14, 5-11	337	Drilling
	San Bernardino County				
Chino Hills	Chino Hills Oil Co., Kraemer	2	33, 3-28	1366	Stdg. cem.

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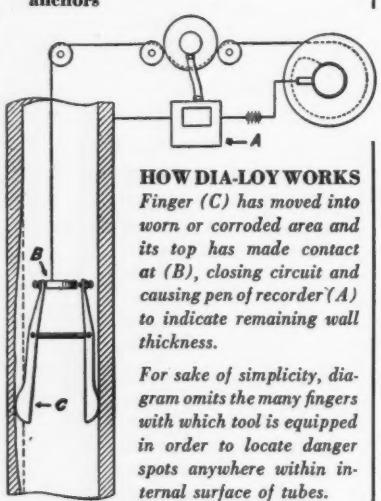

HOW DIA-LOY WORKS

Finger (C) has moved into worn or corroded area and its top has made contact at (B), closing circuit and causing pen of recorder (A) to indicate remaining wall thickness.

For sake of simplicity, diagram omits the many fingers with which tool is equipped in order to locate danger spots anywhere within internal surface of tubes.

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Long Beach Test Deep

Shell Oil Co.'s deep driller in the extreme easterly portion of the Long Beach field, Alamitos No. 48A, is drilling ahead at 10,616 ft. No information is being released concerning formations, but it is generally believed that a great deal of promising oil sand has been taken in the lower section of the hole. Field reports indicate that the major showings have been found below 5800 ft. The company's other deep driller, Stakemiller-Rose No. 1, was last reported drilling in shale at 8816 ft.

Brea-Olinda Wells Work

In the Brea-Olinda field Shell Oil Co. is redrilling and deepening Pico No. 3A at 5291 ft. and is deepening Orange No. 18 at 1598 ft. Near the field Seacoast Oil Co. Wardman No. 1, sec. 3-3s-10w, was last reported drilling near 1400 ft.

Oak Canyon Try Scheduled

Western Gulf Oil Co., in conjunction with Texaco & Shell, are preparing to drill Stevens No. B-1 as a wildcat try near the Oak Canyon field. The project will be located near the center of the northeast quarter of sec. 5-4n-17w. Within the field the company finished C. R. Wickham, Jr. U.S.L. No. 1-A in the Gilmore and Maxwell-Weaver zones. The former zone was last reported flowing on gas lift in a dual zone completion hook-up at a 716 B/D rate while the latter was flowing 244 B/D. Vesta B. Wickham U.S.L. No. 4 is completed in the Wickham zone interval 5285-5335 ft. making 280 B/D 21.7 gravity oil.

Yorba Linda Well Planned

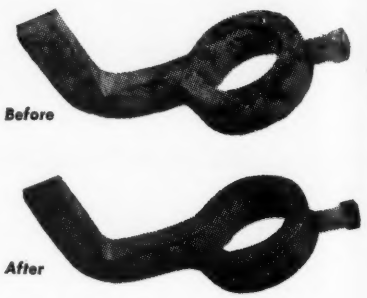
Skylark Oil Co., headed by V. R. G. Wilbur of Pasadena, is preparing to drill Howe No. 1 in the Yorba Linda field. The project will be located 300 ft. S. and 168 ft. E. of the C/L of Richfield and Avocado Avenues. Killingsworth Brothers will handle the operations.

Potrero Work To Start

Basin Oil Co. plans to redrill well No. 9 in the Potrero field near Inglewood. Following this work the company will drill No. 15 as a grass root job 127 ft. S. and 1778 ft. E. of the C/L of Manchester and Prairie Avenues.

Newhall Wildcat Soon To Drill

Signal Oil & Gas Co. is starting to build several miles of road to a drilling site for a wildcat in the hills near the town of Newhall. At presstime no details are available as to location or objective.



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Manufacturing plants in Los Angeles, Chicago, Perth Amboy, Houston. Branches in principal cities.

Whittier Well Now Suspended

Hilo Oil Co. Hilo-Cinabar No. 1, sec. 1-3s-11w in the SE Whittier-La Habra area, bottomed in gray silty shale at 6010 ft. and suspended after running electric log. It is reported that Hilo has retired from the deal and that new backers are considering deepening the project.

On a nearby location in the same section Associated Piping & Engineering Co. Simons No. 1 is drilling ahead after cementing surface casing at 652 ft.

Coastal and Northern District

Modelo Well Starts Drilling

Pacific Western Oil Corporation has spudded Crocker Fee No. 1-D in the Modelo Field of Ventura County. Located in the southeast quarter of sec. 7-4n-18w, the well was last reported drilling ahead below 600 ft.

Tar Creek Well Finished

Volunteer Pet. Company completed Tar Creek No. 3, on sec. 28-5n-19w, at 2373 ft. pumping 34 barrels in 8 hours of 23 gravity oil cutting only 0.2%. The company's M&L No. 1, on sec. 7-4n-21w at Ojai, is drilling with cable tools at 105 ft. while Hilltop No. 2 in the same section was last reported making hole in siltstone at 1160 ft.

Rio Vista Well Completed

Amerada Pet. Corp. Emig No. 3 in the Rio Vista Gas Field was completed at 6164 ft. in the gun perforated interval 5520-5600 ft. flowing 2338 MCF gas through a quarter inch bean. Top of the Hamilton Zone was pegged at 5519 ft.

Superior Oil Company Reclamation Board No. 2, on sec. 7-3n-3e, blew 13,150 MCF rate on the interval 5365-5411 ft. and 14,500 MCF from the interval 5417-5465 ft. At last report the well was coring sand at 5724 ft. after finding the base of the Hamilton sand at 5517 ft.

Suisun Bay "Cat" Quits

Standard Oil Company, Suisun Community No. 4, on sec. 5-3n-1w in the Suisun Bay area of Solano County, abandoned in gray sand at 6947 ft. without having found showings worthy of testing. On sec. 23-3n-1w of the area the company abandoned Fontana Farms No. 1 at 7944 ft. after freezing drill pipe on a fishing job.

Santa Maria Valley Well Finished

Bush - Hancock Oil Company Bradley No. 13 on sec. 26-10n-34w in the Santa Maria Valley Field finished at total depth of 5425 ft. flowing 315 B/D clean 14.8 gravity oil. On sec. 22-10n-34w Union Oil Company Wheat No. 3 was the first well in the field to complete from the Franciscan Zone only. Bottomed at 4811 ft. with 8⅝ in. casing cemented at 3624 ft. and with liner including 869 ft. of perforations landed on bottom and Cp'd at 9335 ft., the well finished pumping a settled 462 B/D 14.3 gravity oil cutting 3.4%. On sec. 35-10n-34w Guy H. Cherry is redrilling the old Brain & Kohler Rembush No. 2 at 4725 ft. On sec. 29 of the township Macoil Company is finishing O'Donnell No. 1 at total depth of 6500 ft. after landing and C.p'ing liner, including perfs. from 5254-5622 ft. and 6065-6495 ft.

Capitan Test Takes In Oil

Shell Oil Company Covarrubias No. 1-35 deep test of the Capitan Field in Santa Barbara County drilled to a total of 4025 ft. and is reaming to make production tests. With 7 in. cemented at 3290 ft. the well has flowed from several intervals below the shoe to bottom at rates up to 1620 B/D clean 39.2 gravity oil with violent gas blows. The initial test from the shoe to 3450 ft. was the first indication of production below the normal field producing zones and was accomplished in sands of the Sespe formation. The company's faith in the potentialities of deep production here is best indicated by its recent location for No. 1-36 on an adjacent location.

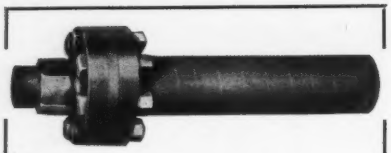
BUY WAR BONDS

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Cat Canyon	Krieger Oil Co., Los Flores	1	27, 9-33		Location
Foxen Canyon	Four-Five-Six Oil Co., Wickenden	1	34, 9-32	4606	Pumping
Gaviota	Standard Oil Co., Hollister	1	35, 5-33		Rig
Los Alamos	Bel-Air Oil Co., Price	1	21, 8-32		Rig
Los Olivos	Hub Oil Co., La Laguna	1	7, 7-30	4965	Stdg. cem.
N. Naples	Shell Oil Co., Dreyfus	1	8, 4-29	1606	Drilling
	Ventura County				
Camarillo	Barth, D. A., Well	1	32, 2-20	520	Idle
Happy Camp	Cal-Camp Oil Corp., Harrington	1	21, 3-19		Grade roads
Hopper Canyon	Dodge, Inc., Signal	7	13, 4-19	2810	Rig pump
Ojai	Delaney Pet. Corp., Victory	1	8, 4-21	1640	Idle
	Volunteer Pet. Corp., Hilltop	2	7, 4-21	1160	Drilling
	Volunteer Pet. Corp., M & L	1	7, 4-21	105	Drilling
Oxnard	Lloyd Corp., Ltd., Todd	A-1	6, 1-22	4211	Rig pump
	MacDonald, Burns & Norris, Culbertson	1	12, 1-22	164	Drilling
Santa Paula	Standard Oil Co., Santa Paula	1	10, 4-20		Rig
South Mt.	Los Nietos Co., L.B.H.	1	22, 3-21	5651	Running csg.
Timber Canyon	Hickey Noble J., Temple	1	22, 4-21	775	Idle
	San Luis Obispo County				
Tar Springs	Amerada Pet. Corp., Tar Springs	1	25, 31-14	4485	Drilling

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Colusa	Standard Oil Co., Davis	1	36, 18n-2w	3032	Drilling
Contra Costa	Ardly Pet. Co., Almond	1	3, 2n-2w		Rig
	Shell Oil Co., East Bay	1	13, 1n-3w	4414	Drilling
	Shell Oil Co., Inc., Jacuzzi	1	34, 2n-2e		Location
Monterey	General Pet. Corp., Vierra	1	7, 13s-2e	5104	Drilling
San Benito	Panoche Pet. Co., Panoche	2		160	Idle
	San Benito Oil Co., Fries Regan	1	4, 13s-5e	2020	Drilling
San Joaquin	Honolulu Oil Corp., Brack	B-1	29, 3n-6e		Foundation
Solano	Amerada Pet. Corp., Church	1	35, 5n-2e	6986	Testing
	Amerada Pet. Corp., Wineman	1	26, 6n-2e	5000	Testing
	Shell Oil Co., Lambie	2	30, 4n-1e	522	Drilling
	Standard Oil Co., Suisun	4	5, 3n-1w	6947	Abandoned
	Standard Oil Co., Fontana	1	23, 3n-1w	7944	Abandoned
Sutter	Buttes Oilfields, Inc., Buttes-Ward	1	2, 15n-1e	4610	Drilling
Yolo	The Texas Co., Winchester	8-1	4, 6n-4e		Location
	The Texas Co., Salisbury	1	20, 10n-1e	3016	Drilling



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Oxnard Area Well Finishing

Lloyd Corporation, Ltd., Todd No. 1-A on sec. 6-1n-22w at Oxnard in Ventura County is rigging a hot water circulating system to handle the heavy gravity oil found here. Bottomed at 4211 ft. and with casing cemented at 3790 ft. the well flowed on test at a 50 barrel in 12 hours rate 8 to 10 gravity oil. On sec. 12 of the township MacDonald-Burns & Norris No. 4 well Culbertson No. 1 is drilling at shallow depth in search of similar production.

Cat Canyon Well Started

Hilo Oil Company is under way with Hilo-Gilmore No. 1 in the northerly section of the Cat Canyon Field. Located in the southwest corner of sec. 23-9n-33w, the company was last reported reaming to set surface casing near the 500 ft. mark. In the field area Union Oil Company is drilling Bell No. 26 on sec. 36-9n-33w at the 4900 ft. level and is grading near its extension production on sec. 26-9n-33w for Palmer-Stendel No. B2 on sec. 26-9n-33w.

Dunnigan Hills Testing Under Way

The Texas Company is drilling at 3016 ft. in Salisbury No. 1 on sec. 20-10n-1e in the Dunnigan Hills area of Yolo County. This test is located 1230 ft. south and 2740 ft. west of the northwest corner of the above section.

South Mountain Outpost Finishing

Los Nietos Company LBH No. 1 on sec. 22-3n-21w, a little less than two miles southwest of the South Mountain Field in Ventura County, bottomed at 5651 ft. and plugged to 5450 ft. to run casing for production trial of sands cored below 2740 ft. with the best zone taken below 4200 ft. Tests made during drilling indicate that the sand phases thus far tested will make commercial production—in which event a considerable area near this old Coastal Field will be open to the drill.

Los Olivos Well Standing

Hub Oil Company, La Laguna No. 1, on sec. 7-7n-30w in the Los Olivos area of Santa Barbara County, is standing with 7 in. casing cemented at 4622 ft. after bottoming in Cherty shale showing oil at 4965 ft. Top of the best oil showings were found at 4625 ft. with the Miocene top placed at 3378 ft. The operators' plans are to test for production from the shoe to bottom and make additional hole so long as the basal showings continue.

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Sunset Plans No. Midway Well

Sunset Oil Company is grading location for Flickinger No. 1 in the north Midway or Elk Hills extension area. The well is located 330 ft. south and 1250 ft. east of the northwest corner of sec. 6-31s-23e. On sec. 36-30s-22e MacDonald-Burns & Norris No. 6 well Flickinger No. 2 is drilling ahead at 4831 ft. in search of gas and distillate production recently affected in its well No. 1.

Sheep Springs Well Flowing

Rothschild - Bender Oil Operations completed Anderson No. 2 on sec. 20-20s-21e in the Sheep Springs field area of Kern County. Flowing from the interval 3035-3054 feet the well was making a settled 200 B/D, 24 gravity clean oil and an estimated 1,000 mcf gas through an 8/64 inch bean under 500 lbs. flow pressure. The company is rigging up to redrill to No. 1 well on the same lease and has staked location for No. 3 on an adjacent location.

On Sec. 17 of the township Independent Exploration Company will resume its drilling program with well No. 76-A. This company was the discoverer of this field.

Semitropic Well Flowing Gas

Standard Oil Company Standard-Fullerton No. 1, on Sec. 25-27s-23e, which drilled to 14,770 ft. in an unsuccessful search for new deep production, is bridging and testing up hole. A test at 3895 ft. blew gas at a 10,500,000 cubic feet per day rate. Perforations at 3897 ft. yielded a 1,000,000 mcf rate and the operator was last reported testing the 3880-90 ft. section.

Paloma Well Now Completed

General Petroleum Corporation Benco No. 58-28, on sec. 28-31s-26e at the northerly flank of the Paloma Field, was completed at total depth of 11,313 ft. flowing an 810 B/D rate clean 35.7 gravity oil and 818,000 cubic feet of gas through an 18/64 in. bean under 1650/1860 lbs. Other work in the northerly section of this field is Ohio Oil Company's Miller & Lux Fee No. 1 on sec. 29-31-26, which is drilling at 3251 ft. and Superior Oil Company, Houchin No. 74-34 on sec. 34 of the township, is drilling at the 3,000 ft. level. Superior is also rigging up to drill Anderson No. 38-35 on the adja-

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Cantua	Tide Water Assoc. Oil Co., S. P.	82-15	15, 17-15	7819	Drilling
Jacalitos	Jacalitos Oil Co., Well	1	30, 21-16		Location
	The Texas Co., Caribou-Record	22-18	12, 21-15	2465	Abandoned
Raisin City	Seaboard Oil Co., S-S	72-6	6, 15-17	4737	Drilling
Tranquility	Standard Oil Co., Paterson	74	3, 16-14	8190	Drilling
	The Texas Co., Calif.-Cotton	36-23	23, 16-15	9097	Cleaning out
	Kern County				
Beardsley	Shell Oil Co., KCL	1	24, 29-27	3273	Abandoned
Canal	The Texas Co., KCL	77-32	32, 29-25	7890	Drilling
Canfield Ranch	Tide Water Assoc. Oil Co., KCL	82-22	22, 30-26	3150	Drilling
Devils Den	C.C.M.O. Co., Bates	2	20, 25-19	6007	Drilling
Edison	Lumpkin-Taylor & Assoc., Well	1	16, 30-29		Location
	Richfield Oil Corp., Cauley	2	16, 30-29	4795	Completing
Fruitvale	General Pet. Corp., Kernlandia	84-16	16, 29-27	8117	Bailing
Gould Hills	Hilo Oil Co., Hilo-Atlas	1	8, 29-21	4559	Drilling
Kern River	Wilkern Oil Co., Nebeeker	1	17, 28-29	200	Drilling
Lindsey Hills	Standard Oil Co., Notz	1	18, 28-22	6536	Reaming
Lost Hills	Standard Oil Co., Cahn	58	4, 27-21	6948	Drilling
McKittrick	Americal Pet. Corp., Americal	1	2, 30-31	5450	Idle
	MacDonald, Burns & Norris, Flickinger	2	36, 30-22	4831	Drilling
	Standard Oil Co., McPhee	2-1	36, 29-21	7665	Testing
Magunden	Western Gulf Oil Co., Bloemer	1	3, 30-28	817	Drilling
Mojave	Thos. M. Blake, Cinco	1	22, 31-37	50	Repair Motors
Mt. Poso	Tavis, J. J. & Assoc., Well	3	8, 27-28		Location
	Western Gulf Oil Co., Foster	1	17, 28-28	3594	Drilling
Mt. View	J. I. Listle Canfield	1	12, 30-28	3003	Drilling
N. Edison	Standard Oil Co., Well	45-21	21, 29-29		Foundation
	Standard Oil Co., Well	81-21	21, 29-29		Rigging up
N. Midway	Sunset Oil Co., Flickinger	1	6, 31-23		Grade
N. Poso Creek	Golden Bear Oil Co., Agey	3	28, 27-27	2062	Bailing
Paloma	Western Gulf Oil Co., L. A. Club	67-6	6, 32-27	2384	Drilling
Race Track Hill	Kern Oil Co., Ltd., Well	28-34	34, 29-29		Rigging up
Round Mt.	Hilo Oil Co., Hilo-Bishop-Swan	1	15, 28-28	1435	Redrilling
	The Texas Co., KCL-Round Mt.	1-13	13, 28-28	2521	Fishing D.P.
Saco	Gen. Pet. Corp., Kernway	1-44	1, 29-26	5009	Drilling
Shark Tooth	United Oil Co., S. P.	1	35, 28-28	2073	Drilling
Sheep Springs	Independent Expl. Co., Well	76-A	17, 29-21		Location
	Rothschild-Bender Oil Ops., Anderson	2	20, 29-21	3054	Completed
	Trico Oil & Gas Co., Trico	24-2	24, 29-21		Rig
Semitropic	Standard Oil Co., Fullerton	1	25, 27-23	14770	Testing
So. Belridge	Bandini Pet. Co., Bacon	1	27, 28-20	10495	Idle
Strand	Standard Oil Co., KCL	23-41	6, 30-26	9996	Abandoned
	Standard Oil Co., Robbins	25-35	35, 29-26	6809	Abandoned
Tejon	Continental Oil Co., Conoco KCL-K	1	36, 11-20	605	Drilling
	Drilling & Prod. Co., O.M.B.	37-33	33, 11-19	4454	Completed
	Drilling & Prod. Co., O.M.B.	64-33	33, 11-19	2265	Drilling
	Hilo Oil Co., Hilo-Metzenbaum	34-5	34, 11-19		Rigging up
	E. W. Pauley, Well	33-9	33, 11-19	2570	Drilling
	Richfield Oil Corp., Tejon	A-16-35	35, 11-19	1796	Drilling
	Richfield Oil Corp., Tejon	R.H.-11-3	3, 10-19	58	Drilling
	Richfield Oil Corp., Evans	1	36, 12-19		Rigging up
	Reserve Oil and Gas Co., Well	33-8	33, 11-19	2750	Completing
	Reserve Oil and Gas Co., Well	33-10	33, 11-19		Location
	Tejon Oil Co., Tejon	1A	19, 11-19	411	Drilling
Ten Section	Richfield Oil Corp., Old River-KCL	2	3, 31-26	8661	Abandoned
Weed Patch	Gen. Pet. Corp., Kernsummer	8-27	27, 30-28		Foundation
	Kings County				
Pyramid Hills	Pyramid Prod. Co., Spreckles	1	16, 24-18	4214	Idle
Reef Ridge	Shell Oil Co., Crow	41-2	2, 23-16	4368	Drilling
Tulare Basin	Standard Oil Co., Mortgage Guarantee Comm.	1	25, 23-21	3706	Reaming
	Madera County				
Madera	Lytle, Lowery R., Lytle	1	31, 12-16		Location
	San Luis Obispo County				
Cholame	K & M Drilling Co., Kosanke	1	17, 25-16	585	Drilling
Midway	Richfield Oil Corp., Temblor Hills	1-1	36, 31-21	7624	Drilling
	Richfield Oil Corp., Temblor Hills	2-1	27, 32-22	4374	Drilling
Shandon	Tutin & Twisselmann, White	1	5, 26-15	3100	Drilling
Temblor Hills	Richfield Oil Corp., & Sun Oil Co., Gonyer Unit	1	36, 12-25		Location
	Tulare County				
Sunnyvale	Shell Oil Co., Parsons	36-1	1. 23-25		Cellar

cent section 35. Lloyd Corporation, Ltd., Lloyd Houchin No. 1 has not yet started on its projected location near the center of sec. 34. Western Gulf Oil Company, discoverer of the field, seeks easterly extension with L. A. Club No. 67-6 which is drilling in the grass roots in the southeasterly quarter of sec. 6-32s-27e.

Jacalitos Well Now Complete

Tide Water Associated Oil Company, well No. 58-16 in sec. 16-21s-15e in the Jacalitos Field, completed at 4270 ft. flowing 798 B/D clean 33.1 gravity oil and 567,000 cubic feet of gas through a 30/64 in. bean under 150/300 lbs. pressure. The company is drilling No. 38-16 at 2462 ft. and has graded location for No. 47-16 on this leasehold. Standard Oil Company's wells No. 2-22e and 72-35e are each nearing completion at the 4400-4500 ft. level.

Wilshire Annex Oil Company No. 25-22e, on sec. 22-21s-15e is completed on the pump at 3700 ft. for a 70 B/D yield of clean 34.6 gravity oil. The company's 47-22e in the same section is under way and making hole at 2820 ft.

Tejon Area Well Flows

Drilling and production Company O.M.B. No. 37-33 on sec. 33-11n-10w bottomed in reserve zone oil field at 4454 ft. to complete flowing 100 B/D oil and 1,000,000 cubic feet of gas through a 16/64 in. bean. Late production through an 8/64 in. bean is 10 B/D 23.8 gravity clean oil and a similar gas flow under 1275 lbs. pressure. The company is drilling its No. 64-33 in clay at 2265 ft.

Richfield Oil Corporation Tejon No. A-16-35 and Tejon RH No. 11-3 are each making hole at shallow depths while the company's Evans No. 1 on sec. 36-12n-19w is rigging for an early start.

Reserve Oil and Gas Company well No. 33-8 on sec. 33 of the township, which completed in Chanac Oil sand at 2750 ft. flowing a 125 B/D rate, is fishing liner after locating water entry at 2738 ft. This company has graded location for No. 33-10 on a nearby site. E. W. Pauley's No. 33-9 in the same section was last reported drilling in clay at 2570 ft.

Hilo Oil Company is rigging up Hilo-Metzenbaum No. 34-5 on sec. 34-11n-19w. To the west, between the Tejon and Wheeler Ridge Fields, Continental Oil Company has spudded Conoco-K.C.L.-K-1 on sec. 36-11n-20w and was last reported making hole after cementing 11¾ in. casing at 480 ft.

Mt. View Try Now Under Way

J. I. Listle is drilling Canfield No. 1 in the Mt. View area of Kern County. Last reported in shale at 3003 ft. after cementing 11¾ in. surface pipe at 550 ft. The well is located in the northwest quarter of sec. 12-30s-28e.

Richfield Stakes Fairfax Try

Richfield Oil Corporation has staked location for Smith No. 57-1 near its Smith No. 1 which discovered 80 barrel production in the Fairfax area near Edison. The new driller will be some 700 ft. due west of the discovery or approximately 985 ft. north and 2307 ft. west of the southeast corner of sec. 1-30s-28e. On sec. 16 of the adjacent township 30s-29e, the company's Cauley No. 2-1 is rigging pump to try for production on promising sands opposite perforations from 4349-4432 ft. and 4556-4676 ft.

Shell Quits Beardsley Try

Shell Oil Company KCL No. 1, on sec. 24-29s-27e of the Beardsley area in Kern County, is abandoned after recovering little fluid on production trial of sands which appeared promising from 3195-3215 ft. The well bailed and pumped a meager amount of fluid from the above interval and achieved similar results from the interval 2950-2975 ft. before going on the hook.

Seaboard Oil Starts Raisin City Try

Seaboard Oil Company, in conjunction with Superior Oil Company, is drilling No. 72-6 in the northeast corner of sec. 6-15s-17e in the Raisin City area of Fresno County. Located four miles northwest of the field, the try was last reported drilling ahead at 4737 ft.

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Standard Quits Strand Area Well

Standard Oil Company K.C.L. No. 23-41, on sec. 6-30s-26e, abandoned at 9996 ft. in gray sand after finding the Stevens Zone barren below 8330 ft. No showings worthy of testing were encountered.

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